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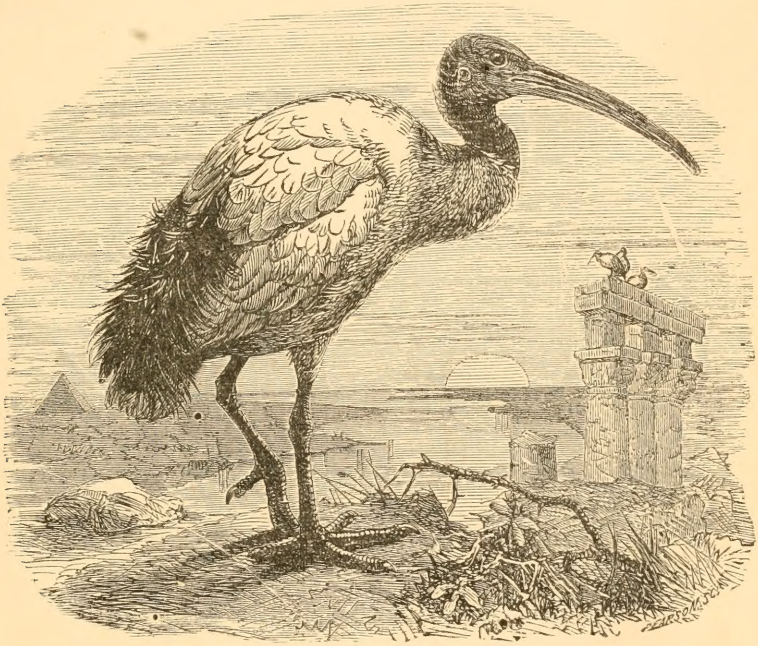
QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY

PHILIP LUTLEY SCLATER, D.Sc., F.R.S.,

AND

A. H. EVANS, M.A., F.Z.S.



VOL. IV. 1904.

EIGHTH SERIES.

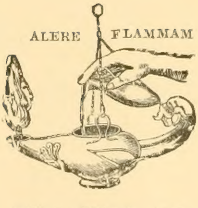
Quam magnificata sunt opera tua, Domine.

190001

LONDON:

R. H. PORTER, 7 PRINCES STREET, CAVENDISH SQUARE, W.

1904.


ALERE FLAMMAM

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PREFACE.

The fourth volume of the Eighth Series of 'The Ibis,' making the forty-sixth of the whole work, is now complete. It would seem, therefore, that the motto chosen for the Fourth Series of this journal, "Ibis avis robusta et multos vivit in annos," was prophetic and has fully justified its use.

We may, moreover, fairly take the increase of general interest in Ornithology to be fully proven by the yearly additions to the roll of the British Ornithologists' Union, which now, as shown by the new List of Members, includes upwards of four hundred names. Another proof of the widespread appreciation of our favourite science is given by the difficulty now experienced in obtaining a complete set of 'The Ibis.'

The Editors thank their many friends most heartily for their much appreciated contributions, but still think, as has been suggested in former Prefaces, that rather too much attention is devoted to one special branch of our subject. Lists of birds from new localities and field-notes are of undoubted value and interest, but there are many other ornithological matters of equal importance, which demand deeper study and on which further information is much to be desired.

P. L. S.
A. H. E.

3 Hanover Square,
London, W.,
September 1st, 1904.

BRITISH ORNITHOLOGISTS' UNION.

1904.

[An asterisk indicates an Original Member. It is particularly requested that Members should give notice to the Secretary of the Union, 3 Hanover Square, London, W., of any error in their addresses or descriptions in this List, in order that it may be corrected.]

Date of Election.

1896. Alexander, Boyd, F.Z.S. (1st Bn. Rifle Brigade); Wilsley, Cranbrook, Kent.
1901. Allchin, James H.; Museum and Public Library, Maidstone.
1888. Aplin, Oliver Vernon; Bloxham, Banbury, Oxon.
1896. Archibald, Charles F.; 9 Cardigan Road, Headingley, Leeds.
5 1896. Arrigoni degli Oddi, Count Ettore, Professor of Zoology, University, Padua; and Ca' oddo, Monselice, Padua, Italy.
1901. Arundel, Major Walter B., F.Z.S.; High Ackworth, Pontefract.
1901. Ashby, Herbert; Pinehurst, Basset, near Southampton.
1897. Astley, The Rev. Hubert Delaval, F.Z.S.; Benham Park, Newbury, Berks.
1885. Backhouse, James, F.Z.S.; Daleside, Harrogate.
10 1904. Bahr, Philip Heinrich, B.A.; Rockfield, Crompton's Lane, Wavertree, Liverpool.
1901. Bailward, Lt.-Col. A. C. (R.F.A.); 1 Princes Mansions, Victoria Street, S.W.
1892. Baker, E. C. Stuart, F.Z.S.; care of Messrs. H. S. King & Co., 65 Cornhill, E.C.
1901. Baker, John C., M.B., B.A.; Ceely House, Aylesbury, Bucks.
1899. Balfour, Frederick Robert Stephen; Dawyck, Stobo, N.B.; and Bachelors' Club, Piccadilly, W.
15 1889. Balston, Richard James, F.Z.S.; Springfield, Maidstone.
1890. Barclay, Francis Hubert, F.Z.S.; The Warren, Cromer, Norfolk.
1872. Barclay, Colonel Hanbury, F.Z.S.; 34 Queen's Gate Gardens, S.W.

Date of Election.

1885. Barclay, Col. Hugh G., F.Z.S.; Colney Hall, Norwich.

1889. Barrett-Hamilton, Capt. Gerald E. H., F.Z.S., 5th Royal Irish Rifles; Kilmanock House, Arthurstown, Waterford, Ireland.

20 1881. Barrington, Richard Manliffe, LL.D.; Fassaroe, Bray, Co. Wicklow.

1903. Bartels, Max.; Pasir Datar, Halte Tjisaat (Preanger), Java, Dutch India.

1902. Becher, Harry, C.E.; 4 Walpole Street, Chelsea, S.W.

1897. Benson, John; The Post Office, Vancouver, B.C.

1897. Berry, William, B.A., LL.B.; Tayfield, Newport, Fifeshire.

25 1880. Bidwell, Edward; 1 Trig Lane, Upper Thames Street, E.C.

1884. Bingham, Lt.-Col. Charles T., F.Z.S.; 6 Gwendwr Road, West Kensington, W.

1892. Bird, The Rev. Maurice C. H., M.A.; Brunstead Rectory, Stalham, S.O., Norfolk.

1891. Blaauw, F. E., C.M.Z.S.; Gooilust, 'sGraveland, Hilversum, Noord-Holland.

1873. Blanford, William T., C.I.E., LL.D., F.R.S., F.Z.S.; 72 Bedford Gardens, Kensington, W.

30 1903. Blathwayt, The Rev. Francis Linley, M.A.; 5 Monks Leys Terrace, Lincoln.

1893. Bolam, George, F.Z.S.; Berwick-on-Tweed.

1897. Bonar, The Rev. Horatius Ninian; Free Church Manse, Salton, Pencaitland, East Lothian, N.B.

1894. Bonhote, John Lewis, F.Z.S.; Ditton Hall, Fen Ditton, Cambridgeshire.

1898. Booth, George Albert; Phœnix Iron Works, Derby Street, Preston; and Fern Hill, Grange-over-Sands, Lancs.

35 1904. Booth, Harry B.; 40 Spring Royd, Shipley, Yorks.

1895. Bradford, Dr. J. Rose, F.R.S.; 8 Manchester Square, W.

1902. Bridgeman, Lieut. The Hon. Richard O. B., R.N.; Weston Park, Shifnal, Salop; and H.M.S. 'Clio,' Australian Station.

1902. Bristowe, Bertram Arthur; The Cottage, Stoke D'Abernon, Surrey.

1885. Brockholes, William Fitzherbert; Claughton-on-Brock, Garstang, Lancashire.

40 1890. Brooke, Harry Brinsley; 33 Egerton Gardens, Kensington, W.

Date of Election.

1899. Brooke, John Arthur, J.P.; Fenay Hall, Huddersfield; and Fearn Lodge, Ardgay, Ross-shire.

1900. Bruce, William Spiers; Scottish National Antarctic Expedition Office, Surgeon's Hall, Edinburgh.

1895. Bulgaria, H.R.H. Ferdinand, Prince of; c/o Dr. P. Leverkühn, The Palace, Sophia, Bulgaria.

1872. Buller, Sir Walter Lawry, K.C.M.G., Sc.D., F.R.S., C.M.Z.S.; 3 & 4 Great Winchester Street, E.C.

45 1903. Burrell, Godfrey Percy; Brooklands, Alton, Hants.

1899. Butler, Arthur Lennox, F.Z.S.; Game Preservation Department, Khartoum, Sudan.

1884. Butler, Lieut.-Col. E. A.; Plumton House, Bury St. Edmunds, Suffolk.

1896. Butterfield, W. C. J. Ruskin; 4 Stanhope Place, St. Leonards-on-Sea.

1900. Buttress, Bernard A. E.; Craft Hill, Dry Drayton, Cambridge.

50 1884. Buxton, Geoffrey Fowell, F.Z.S.; Dunston Hall, Norwich.

1895. Buxton, S. Gurney, F.Z.S.; Catton Hall, Norwich.

1896. Cade, Francis J.; Teighmore, Cheltenham.

1903. Cambridge, Frederick O. Pickard; 35 Haydon Park Road, Wimbledon.

1889. Cameron, Ewen Somerled, F.Z.S.; V. Ranch, Terry, Montana, U.S.A.

55 1896. Cameron, Lieut. James S.; 1st Bn. Royal Sussex Regt., South Africa; and Low Wood, Bethersden, Ashford, Kent.

1888. Cameron, John Duncan; Low Wood, Bethersden, Ashford, Kent.

1892. Campbell, Charles William, C.M.Z.S., H.B.M. Chinese Consular Service; British Legation, Peking, China.

1888. Carter, James; Burton House, Masham, R.S.O., Yorkshire.

1890. Cave, Charles John Philip, F.Z.S.; Ditcham Park, Petersfield.

60 1894. Chance, A. Macomb, B.A.; Lawnside, Edgbaston, Birmingham.

1884. Chapman, Abel, F.Z.S.; Houxty, Wark-on-Tyne.

1882. Chase, Robert William; Pool Hall, Wishaw, near Birmingham.

1900. Chatterton, Frederick J. S.; 78 Clissold Road, Stoke Newington, N.

1897. Cholmley, Alfred John, F.Z.S.; Place Newton, Rillington, Yorkshire.

Date of
Election.

65 1904. Clarke, Goland van Holt, D.S.O., 18th Hussars; Brook House, Hayward's Heath, Sussex.

1889. Clarke, Major Stephenson Robert, F.Z.S.; Borde Hill, Cuckfield, Sussex.

1880. Clarke, William Eagle, F.L.S.; Museum of Science and Art, Edinburgh.

1904. Cochrane, Lieut. Henry Lake, R.N.; Burston House, Pittville, Cheltenham.

1898. Cocks, Alfred Heneage, F.Z.S.; Poynetts, Skirmett, near Henley-on-Thames.

70 1895. Coles, Richard Edward; Ashley, Arnewood, Lymington.

1904. Collier, Charles, F.Z.S.; Clieveden House, 21 Eaton Terrace, S.W.

1888. Cordeaux, William Wilfrid, Captain 21st Lancers, Marlborough Barracks, Dublin.

1882. Cory, Prof. Charles B., F.Z.S.; 160 Boylston Street, Boston, Mass., U.S.A.

1899. Cowie, The Rev. Archibald G. G.; c/o S. P. G. Mission, Cawnpore, India.

75 1896. Cowie, Major Alexander Hugh, R.E., F.Z.S.; Aldershot; and c/o H. Ward, Esq., Yeatton, Lymington, Hants.

1902. Cowie, Robert Macnamara, M.R.C.S.; 2nd Life Guards, Hyde Park, W.

1896. Crawford, Francis C.; 19 Royal Terrace, Edinburgh.

1894. Crewe, Sir Vauncey Harpur, Bt.; Calke Abbey, Derby.

1895. Crossley, Sir Savile B., Bt., M.V.O., F.Z.S.; Somerleyton, Lowestoft; and 12 Carlton-House Terrace, S.W.

80 1898. Crossman, Alan F.; c/o Messrs. Kidson & Gawler, Fremantle, Western Australia.

1903. Crowley, John Cyril, B.A.; 16 Chatsworth Road, Croydon

1898. Crowley, Reginald Alwyn; Highfield, Alton, Hants; and 22 High Street, Croydon.

1899. Curtis, Frederick, F.R.C.S.; Lyndens, Redhill, Surrey.

1877. Dalgleish, John J.; Brankston Grange, Bogside Station, Stirling, N.B.

85 1898. Dalrymple, John James, Capt. Viscount; Lochinch, Castle Kennedy, Wigtonshire; and 1st Bn. Scots Guards.

1896. Danford, Bertram W. Y., R.E.; Bermuda.

1897. Darnley, Ivo Francis Walton, Earl; Cobham Hall, Gravesend; and Clifton Lodge, Athboy, Co. Meath.

Date of Election.

1883. Davidson, James, F.Z.S.; Karwar, Kanara, Bombay; and 32 Drumsheugh Gardens, Edinburgh.

1899. Davies, Lt. Sutton A., 2nd East Lancs. Regt., Jullundur, Punjab, India.

90 1902. Dent, Charles Henry; c/o Bolitho & Co. Ltd., Penzance, Cornwall.

1891. De Vis, Charles W.: Queensland Museum, Brisbane; and care of Mr. B. Quaritch, 15 Piccadilly, W.

1893. De Winton, W. E., F.Z.S.; Graftonbury, Hereford; and Orielton, Pembroke.

1896. Dobbie, James B., F.Z.S.; 9 Mansfield Place, Edinburgh.

1889. Dobie, William Henry, M.R.C.S.; 2 Hunter Street, Chester.

95 1895. Donovan, Major Charles, I.M.S.; Dunduan, Nungumbakum, Madras; and c/o Messrs. P. Macfadyen & Co., Winchester House, Old Broad Street, E.C.

1904. Dorrien-Smith, Thomas Algernon, J.P., D.L.; Tresco Abbey, Scilly Isles.

1904. Drake-Brockman, Dr. Ralph E.; Cheriton, Wellington Road, Bournemouth, and Berbera, Somaliland.

1865. Dresser, Henry Eeles, F.L.S., F.Z.S.; 28 Queensborough Terrace, Hyde Park, W.

1896. Drewitt, Frederic George Dawtrey, M.A., M.D., F.R.C.P., F.Z.S.; 14 Palace Gardens Terrace, Kensington, W.

100 1890. Drummond-Hay, Major James A. G.; 1st Bn. Coldstream Guards; and Seggieden, Perth, N.B.

1904. Duckworth, George Herbert; 22 Hyde Park Gate, S.W.

1878. Durnford, W. Arthur, J.P.; Elsecar, Barnsley.

1896. Duthie, Lt.-Col. W. H. M.; The Presbytery, North Berwick.

1903. Earle, Edward Vavasour; Franks Hall, Farningham, Kent.

105 1870. Elliot, Daniel Giraud, F.R.S.E., F.Z.S.; Field Columbian Museum, Chicago, U.S.A.

1895. Elliot, Edmund A. S., M.R.C.S.; Woodville, Kingsbridge, South Devon.

1884. Elliott, Algernon, C.I.E.; 16 Belsize Grove, Hampstead, N.W.

1902. Ellison, Allan, M.A.; Ardoyne House, Watton, Hertford.

1904. Elton, Henry Brown; Holsworthy, N. Devon; and Caius College, Cambridge.

110 1866. Elwes, Henry John, F.R.S., F.Z.S.; Colesborne, Cheltenham.

Date of Election.

1879. Evans, Arthur Humble, M.A., F.Z.S.; 9 Harvey Road, Cambridge. (*Joint Editor.*)

1888. Evans, William, F.R.S.E.; 38 Morningside Park, Edinburgh.

1892. Fairbridge, William George; 133 Long Market Street, Capetown, South Africa.

1895. Falconer, John J. M.; 31 Lauder Road, Edinburgh.

115 1894. Farquhar, Capt. Arthur M., R.N., C.V.O.; Granville Lodge, Aboyne, N.B.; and H.M.S. 'Magnificent,' Channel Fleet.

1898. Farquhar, Commr. Stuart St. J., R.N.; H.M.S. 'Vestal,' China Station; and Drumnagesk, Aboyne, N.B.

1873. Feilden, Col. Henry Wemyss, C.B., C.M.Z.S.; Burwash, Sussex; and Junior United Service Club, S.W.

1897. Fenwick, Edward Nicholas Fenwick; Oxford and Cambridge Club, Pall Mall, S.W.

1886. Ferguson, Harold Stuart, F.Z.S.; c/o Gen. Sir J. Glyn, K.C.B., Sherborne House, Sherborne, Dorsetshire.

120 1901. Finlinson, Horace W.; Gore Court, Sittingbourne, Kent.

1892. Finn, Frank, B.A., F.Z.S.; 29 Chalcot Crescent, Primrose Hill, N.W.

1890. Fisher, Lionel; Kandy, Ceylon.

1902. Flower, Capt. Stanley Smyth, F.Z.S.; Kedah House, Zoological Gardens, Gizeh, Cairo.

1884. Forbes, Henry Ogg, LL.D., F.Z.S.; Free Public Museums, Liverpool.

125 1898. Foster, George E.; Brooklands, Cambridge.

1903. Foster, Nevin Harkness; Hillsborough, Co. Down, Ireland.

1880. Foster, William; Newlands, Petworth, Sussex.

1887. Fowler, William Warde, M.A.; Lincoln College, Oxford.

1865. Fox, The Rev. Henry Elliott, M.A.; The Croft, Lytton Grove, Putney Hill, S.W.

130 1881. Freke, Percy Evans; Southpoint, Limes Road, Folkestone.

1895. Frohawk, Frederick William; Ashmount, Rayleigh, Essex.

1881. Gadow, Hans, Ph.D., F.R.S., F.Z.S.; University Museum of Zoology, Cambridge.

1886. Gainsborough, Charles William Francis, Earl of; Exton Park, Oakham.

1900. Garnett, Charles; 9 Cleveland Gardens, Hyde Park, W.; and New University Club, St. James's Street, S.W.

135 1904. Gaye, Arthur Stretton; Trinity College, Cambridge.

Date of
Election.

1900. Gayner, Francis; Oxshott, Surrey.

1892. Gerrard, John, Government Inspector of Mines; Worsley, near Manchester.

1902. Gibbins, William Bevington; Ettington, Stratford-on-Avon.

1879. Gibson, Ernest, F.Z.S.; 476 General Guido, Buenos Aires.

140 1902. Gillett, Frederick, F.Z.S.; 28 Beaufort Gardens, S.W.; and Junior Carlton Club, Pall Mall, S.W.

1902. Gillman, Arthur Riley; 5 Fellows Road, Hampstead, N.W.; and 3 Southampton Street, High Holborn, W.C.

1904. Gilroy, Norman; 71 Claremont Road, Forest Gate, Essex; and Seaford, Sussex.

1903. Gladstone, Hugh Steuart, M.A., F.Z.S.; Capenoch, Thornhill, Dumfriesshire.

* 1858. Godman, Frederick DuCane, D.C.L., F.R.S., F.Z.S.; 10 Chandos Street, Cavendish Square, W. (*President.*)

145* 1858. Godman, Percy Sanden, B.A., C.M.Z.S.; Muntham, Horsham.

1901. Goodchild, Herbert; 66 Gloucester Road, Regent's Park, N.W.

1900. Goodfellow, Walter; Wyndale, Richmond Park, Bournemouth.

1899. Gould, Frank Herbert Carruthers, F.Z.S.; Matham Manor House, East Molesey, Surrey.

1895. Grabham, Oxley, M.A.; Thornton Dale, Pickering, Yorks.

150 1885. Guillemard, F. H. H., M.A., M.D., F.Z.S.; Old Mill House, Trumpington, Cambridge.

1876. Günther, Albert C. L. G., M.A., M.D., F.R.S., F.Z.S.; 2 Lichfield Road, Kew Gardens, S.W.

1870. Gurney, John Henry, F.Z.S.; Keswick Hall, Norwich; and Athenæum Club, Pall Mall, S.W.

1896. Gurney, Robert; Longmoor Point, Catfield, Gt. Yarmouth.

1890. Gwatkin, Joshua Reynolds Gascoign; The Manor House, Potterne, Devizes.

155 1901. Haagner, Alwin; Dynamite Factory, Modderfontein, Transvaal, South Africa.

1891. Haigh, George Henry Caton; Grainsby Hall, Great Grimsby, Lincolnshire.

1898. Haines, Charles Reginald, M.A.; Meadhurst, Uppingham, Rutland.

Date of Election.

1887. Haines, John Pleydell Wilton; 17 King Street, Gloucester.

1898. Hale, The Rev. James Rashleigh, M.A.; The Vicarage, Horton Kirby, Dartford, Kent.

160 1904. Harington, Capt. Herbert Hastings; 92nd Punjabis, Bhamo, Upper Burma.

1900. Harper, Edmund William, F.Z.S.; 45 Water Street, Georgetown, Demerara, British Guiana.

1900. Harris, Henry Edward; 301 St. James's Court, Buckingham Gate, S.W.

1893. Hartert, Ernst; The Museum, Tring, Herts.

1868. Harting, James Edmund, F.L.S., F.Z.S.; Edgewood, Weybridge, Surrey.

165 1896. Hartland, John Cole; c/o Messrs. Hunt & Co., P.O. Box 11, Yokohama, Japan.

1893. Hartmann, William; Milburn, Esher, Surrey.

1899. Harvey, Capt. Robert Napier, R.E.; Stanhope Lines, Aldershot.

1873. Harvie-Brown, John A., F.R.S.E., F.Z.S.; Dunipace House, Larbert, N.B.

1900. Hasluck, Percy Pedley Harford; The Wilderness, Southgate, N.

170 1902. Hatfeild, John Randall; Edlington Hall, Horncastle, Lincolnshire.

1898. Hawker, Richard M., F.Z.S.; Bath Club, Dover Street, W.; and c/o Messrs. Dalgety & Co., 96 Bishopsgate Street Within, E.C.

1904. Head, Francis; Buckingham, Shoreham, Sussex.

1887. Hebbert, Charles T., F.Z.S.; The Rhodrons, Hook, Kingston-on-Thames.

1902. Herbert, Bron; Picket Post, Ringwood, Hants.

175 1902. Hett, Geoffrey Seccombe; 30 Ovsett Terrace, London, W.

1899. Heywood, Richard; Narside, Narborough, Swaffham, Norfolk.

1900. Hills, John Waller; 14 Victoria Grove, Kensington, W.; and Corby Castle, Carlisle.

1884. Holdsworth, Charles James; Sunnyside, Wilmslow, Cheshire.

1877. Holdsworth, Edmund W. H., F.Z.S.; South Town, Dartmouth, Devon.

180 1904. Horsbrugh, Capt. Boyd Robert, Army Service Corps, Seabrooke Vale, Shorncliffe Camp.

Date of Election.

1888. Horsfield, Herbert Knight; Ivy Lodge, Chapel Allerton, Leeds.

1893. Hose, Charles, D.Sc., F.Z.S.; Baram, Sarawak, Borneo.

1895. Howard, Henry Eliot; Clarelands, near Stourport.

1881. Howard, Robert James; Shearbank, Blackburn, Lancashire.

185* 1858. Hudleston, Wilfrid Hudleston, M.A., F.R.S., F.Z.S.; 8 Stanhope Gardens, S.W.

1893. Hudson, William Henry, F.Z.S.; Tower House, St. Luke's Road, Westbourne Park, W.

1869. Hume, Allan Octavian, C.B., C.S.I., F.Z.S.; The Chalet, Kingswood Road, Upper Norwood, S.E.

1890. Hunter, Henry Charles Vicars; Mawley Hall, Cleobury Mortimer, Salop.

1901. Ingram, Collingwood; The Bungalow, Westgate-on-Sea; and c/o Lady Ingram, 65 Cromwell Road, S.W.

190 1902. Innes Bey, Dr. Walter Francis; Curator of the Zoological Museum, School of Medicine, Cairo, Egypt.

1870. Irby, Lieut.-Col. Leonard Howard, F.Z.S.; 14 Cornwall Terrace, Regent's Park, N.W.

1888. Jackson, Frederick J., C.B., C.M.G., F.L.S.; British East Africa; The Red House, Aldeburgh, Suffolk.

1902. Jacob, Dr. Frank Harwood; 4 Oxford Street, Nottingham.

1892. James, Henry Ashworth; Hurstmonceux Place, Hailsham, Sussex.

195 1896. Jesse, William; Meerut College, Meerut, India.

1889. Johnson, Frederick Ponsonby, B.A., J.P., D.L.; Castlesteads, Brampton, Cumberland.

1891. Johnston, Sir Harry Hamilton, G.C.M.G., K.C.B., F.Z.S.; 27 Chester Terrace, Regent's Park, N.W.

1900. Jones, Major Henry (late 62nd Regt.); East Wickham House, Welling, Kent.

1899. Jourdain, The Rev. Francis Charles Robert, M.A.; Clifton Vicarage, near Ashbourne, Derbyshire.

200 1902. Joy, Norman Humbert, M.R.C.S., L.R.C.P.; Bradfield, near Reading.

1880. Kelham, Col. Henry Robert, C.B. (late Highland Light Infantry); 52 Tisbury Road, Hove, Brighton.

1894. Kelsall, Capt. Harry Joseph, R.G.A., Wicklow Artillery, Southern Division, Wicklow, Ireland.

Date of Election.

1897. Kelsall, The Rev. John Edward, M.A.; Milton Rectory, Lymington, Hants.

1904. Kelso, John Edward Harry, M.B.; San Remo, 12 Festing Road, Southsea, Hants.

205 1891. Kerr, J. Graham, F.Z.S., Professor of Natural History, The University, Glasgow.

1895. Kingsford, William Edward; Cairo, Egypt.

1902. Kinnear, Norman Boyd; 12 Grosvenor Crescent, Edinburgh.

1882. Knubley, The Rev. Edw. Ponsonby, M.A.; Steeple Ashton Vicarage, Trowbridge.

1900. Koenig, Dr. Alexander Ferdinand; Coblenzer-Strasse 164, Bonn, Germany.

210 1892. Laidlaw, Thomas Geddes; Bank of Scotland, Perth.

1884. Langton, Herbert; 11 Marlborough Place, Brighton.

1881. Lascelles, The Hon. Gerald, F.Z.S.; The King's House, Lyndhurst.

1892. La Touche, John David Digues, C.M.Z.S.; Imperial Maritime Customs, Chin Kiang, China.

1892. Laws, Arthur Moore; Ayrshire Mine, Lomagundi, Mashonaland, South Africa.

215 1898. Learoyd, A. Ernest; Rawthorpe Hall, Huddersfield.

1898. Le Souëf, Dudley, C.M.Z.S.; Director of the Zoological Gardens, Melbourne, Victoria, Australia.

1868. Le Strange, Hamon, F.Z.S.; Hunstanton Hall, King's Lynn, Norfolk.

1875. L'Estrange, Col. Paget Walter, R.A.; Knockyn, Horsham.

1903. Lethbridge, Ambrose Yarburgh; Rokeby, Barnard Castle, Yorks.

220 1893. Lewis, Frederick; Assistant Conservator of Forests, The Kachchin, Colombo, Ceylon.

1889. Leyland, Christopher John; Haggerston Castle, Beal, Northumberland.

1897. Lilford, John, Lord, F.Z.S.; Lilford Hall, Oundle, Northants.

1874. Lloyd, Col. John Hayes, F.Z.S.; Braeside, Palace Road, Streatham, S.W.

1898. Loat, William Leonard S., F.Z.S.; Cumnor Place, near Oxford.

225 1897. Lodge, George Edward, F.Z.S.; 5 Thurloe Studios, Thurloe Square, S.W.

Date of Election.

1904. Lowe, Dr. Percy R.; c/o Sir Frederic Johnstone, Bt., The Hatch, Windsor.

1889. Loyd, Lt.-Col. Arthur Purvis, F.Z.S. (late 21st Hussars); c/o Capt. Loyd, The Old House, Wimborne, Dorset.

1896. Lubbock, Percy; 26 Cadogan Gardens, S.W.

1877. Lumsden, James, F.Z.S.; Arden House, Arden, Dumbartonshire, N.B.

230 1896. Luttman-Johnson, James Arthur, M.A., F.Z.S.; 101 Mount Street, W.

1904. Lynes, Lieut. Hubert, R.N.; 23 Onslow Gardens, S.W.

1900. McConnell, Frederick Vavasour; 37 Cranley Gardens, South Kensington, S.W.

1904. Macdonald, Kenneth Campbell; Burma Police, Rangoon, Burma.

1897. McLean, John Chambers; Repongaere, Waerenga-a-hika, Gisborne, New Zealand.

235 1899. Macmillan, George Augustin; 19 Earl's Terrace, Kensington, W.

1894. Macpherson, Arthur Holte; 51 Gloucester Terrace, Hyde Park, W.

1904. Mapleton, Harvey William, B.A.; Bracknell Cottage, Hartley Wintney, Winchfield, Hants; and Badgworth, Axbridge, Somerset.

1894. Marshall, Archibald McLean; 29 Queen's Gate Gardens, S.W.

1894. Marshall, James McLean; 29 Queen's Gate Gardens, S.W.

240 1899. Martin, Basil William, F.Z.S.; The University, Aberdeen.

1901. Martin, Rev. William Keble, B.A.; 4 Queen's Road, Beeston, Notts.

1897. Mason, Col. Edward Snow; 20 Minster Yard, Lincoln.

1898. Massey, Herbert; Ivy Lea, Burnage, Didsbury, Manchester.

1896. Maxwell, Rt. Hon. Sir Herbert E., Bt., P.C., M.P., F.R.S.; 49 Lennox Gardens, S.W.

245 1883. Meade-Waldo, Edmund Gustavus Bloomfield, F.Z.S.; Stonewall Park, Edenbridge, Kent.

1899. Meinertzhagen, Richard, F.Z.S.; 3rd King's African Rifles, Nairobi, British East Africa; Brookwood Park, Alresford, Hants.

1900. Metcalfe, Geoffrey Bryan Theophilus; 8th (King's Royal Irish) Hussars, Cavalry Depôt, Canterbury; and Roche Court, Salisbury.

Date of Election.

1886. Millais, John Guille, F.Z.S.; Comptons Brow, Horsham.

1903. Mills, The Rev. Henry Holroyd; Treslothan Vicarage, Camborne, Cornwall.

250 1879. Mitchell, Frederick Shaw; Clyderhowe, Edmonton, Alberta, N.W.T., Canada.

1901. Mitchell, P. Chalmers, M.A., D.Sc., F.Z.S.; Secretary to the Zoological Society of London, 3 Hanover Square, W.

1897. Mitchell, William; 5 Bury Street, St. James's, S.W.

1904. Mitchell-Carruthers, Alexander Douglas; Holbrook Rectory, Ipswich.

1898. Monro, Horace Cecil, C.B.; Queen Anne's Mansions, Queen Anne's Gate, S.W.

255 1900. Montagu, Edwin S.; 12 Kensington Palace Gardens, W.

1886. Muirhead, George; Speybank, Fochabers, Co. Moray, N.B.

1893. Mullens, Major William H., M.A., F.Z.S.; 9 St. James's Place, S.W.

1892. Munn, Philip Winchester; Laverstoke, Whitchurch, Hants.

1897. Munt, Henry; 83 Kensington Gardens Square, W.

260 1900. Musters, John Patricius Chaworth, D.L., J.P.; Annesley Park, Nottingham.

1885. Neale, Edward; 43 Charlotte Street, Portland Place, W.

1882. Nelson, Thomas Hudson; The Cliffe, Redcar, Yorkshire.

1895. Nesham, Robert, F.Z.S., F.E.S.; Utrecht House, Queen's Road, Clapham Park, S.W.

1897. Neumann, Oscar; 10 Potsdamer Strasse, Berlin, W.

265 1872. Newcome, Francis D'Arcy William Clough; Thurston Lodge, Bury St. Edmunds, Suffolk.

1904. Newman, Thomas Henry, F.Z.S.; 20 Montpelier Square, S.W.

* 1858. Newton, Alfred, M.A., F.R.S., F.Z.S., Professor of Zoology in the University of Cambridge; Magdalene College, Cambridge.

1886. Nicholls, Howard Hill John, M.R.C.S.; Bramber Lodge, Downview Road, West Worthing.

1902. Nichols, John Bruce; Parliament Mansions, Victoria Street, S.W.

270 1900. Nichols, Walter Buchanan; Stour Lodge, Bradfield, Manningtree, Essex.

1876. Nicholson, Francis, F.Z.S.; 84 Major Street, Manchester.

1902. Nicoll, Michael John; 10 Charles Road, St. Leonards.

Date of Election.

1904. Noakes, Wickham; Selsdon Park, Croydon.

1895. Noble, Heatley; Temple Combe, Henley-on-Thames.

275 1887. Norman, George Cameron, F.Z.S.; 68 Lombard Street, E.C.; and Mount Melville, St. Andrews, N.B.

1892. Ogilvie, Fergus Menteith, M.A., F.Z.S.; The Shrubbery, 72 Woodstock Road, Oxford.

1890. Ogilvie-Grant, W. R.; British Museum (Natural History), Cromwell Road, S.W.

1889. Ogle, Bertram Savile; Hill House, Steeple Aston, Oxford.

1883. Parker, Henry, C.E., F.Z.S.; 76 Station Road, South Shore, Blackpool, Lancs.

280 1879. Parkin, Thomas, M.A., F.Z.S.; Fairseat, High Wickham, Hastings.

1891. Patterson, Robert; Glenbank, Holywood, Co. Down.

1884. Patterson, Sir Robert Lloyd, D.L., F.L.S.; Croft House, Holywood, Co. Down.

1904. Pearse, Theed; Mentmore, Ampthill Road, Bedford.

1894. Pearson, Charles Edward; Hillcrest, Lowdham, Nottingham.

285 1891. Pearson, Henry J.; Bramcote, Notts.

1902. Pease, Sir Alfred Edward, Bt., F.Z.S.; Pinchinthorpe House, Guisborough, Yorkshire; and Barberton, Transvaal, South Africa.

1898. Penn, Eric Frank; Taverham Hall, Norwich.

1891. Penrose, Francis George, M.D., F.Z.S.; 84 Wimpole Street, W.

1900. Percival, Arthur Blayney, F.Z.S.; Game-Ranger, Nairobi, British East Africa Protectorate; and Somerset Court, Brent Knoll, Somerset.

290 1886. Phillips, E. Lort, F.Z.S.; 79 Cadogan Square, S.W.

1888. Phillips, George Thorne; Wokingham, Berkshire.

1893. Pigott, Thomas Digby, C.B.; 5 Ovington Gardens, S.W.

1893. Pike, Thomas Mayer, M.A.; c/o Mr. Porter, 7 Prince's Street, Cavendish Square, W.

1899. Pope, Walter Henry; 2 De Vaux Place, The Close, Salisbury.

295 1896. Popham, Hugh Leyborne, M.A.; 14 Arlington Street, St. James's, S.W.

1898. Price, Athelstan E.; Broxbourne, Herts.

1903. Proctor, Major Frederick William (late West Riding Regt.); Downfield, Maidenhead.

Date of Election.

1901. Proud, John T.; Dellwood, Bishop Auckland.

1893. Pycraft, William Plane, F.Z.S.; British Museum (Natural History), Cromwell Road, S.W.

300 1888. Radclyffe, Charles Robert Eustace; Hyde, Wareham, Dorset.

1903. Ralfe, Pilcher George; The Parade, Castletown, Isle of Man.

1903. Ratcliff, Frederick Rowlinson; 24 Lancaster Gate, W.

1879. Rawson, Herbert Evelyn, F.Z.S.; Fallbarrow, Windermere.

1894. Read, Richard Henry, L.R.C.P., M.R.C.S.; Church Street, Hanley, Staffordshire.

305 1888. Read, Robert H.; 8*a* South Parade, Bedford Park, W.

1877. Reid, Capt. Savile G. (late R.E.), F.Z.S.; The Elms, Yalding, Maidstone.

1903. Renaut, William E.; 15 Grafton Square, Clapham, S.W.

1893. Rendall, Percy, M.D., F.Z.S.; Ewell, Surrey; and Devonshire Club, St. James's Street, S.W.

1895. Rickett, Charles Boughey; Hong Kong and Shanghai Bank, Foochow; Upton House, Lostwithiel, Cornwall; and care of Messrs. H. S. King & Co., 65 Cornhill, E.C.

310 1896. Rippon, Lt.-Col. George, F.Z.S.; 89th Punjabis, Mandalay, Upper Burma.

1902. Riviere, Bernard Beryl; 82 Finchley Road, N.W.

1898. Robinson, Herbert C.; Holmwood, Aigburth, Liverpool.

1896. Rogers, Capt. J. Middleton, F.Z.S.; 1st (Royal) Dragoons; and Riverhill, Sevenoaks, Kent.

1893. Rothschild, The Hon. L. Walter, M.P., D.Sc., F.Z.S.; The Museum, Tring, Herts.

315 1894. Rothschild, The Hon. N. Charles, F.Z.S.; Tring Park, Tring, Herts.

1883. St. Quintin, William Herbert, F.Z.S.; Scampston Hall, Rillington, Yorkshire.

1903. Sandeman, Capt. Robert Preston (late 10th Hussars); Dan-y Park, Crickhowell.

1899. Sapsworth, Arnold Duer, F.Z.S.; The Dower House, Ember Court, East Molesey, Surrey; and National Liberal Club, Whitehall Place, S.W.

1902. Sargeaunt, Arthur St. George; 83 Madeley Road, Ealing, W.

320 1904. Sargent, James; 76 Jermyn Street, S.W.; and 2 Napier Villas, Cambridge Road, Barnes.

Date of Election.

1870. Saunders, Howard, F.L.S., F.Z.S.; 7 Radnor Place, Hyde Park, W. (*Secretary.*)

1902. Saunders, William Henry Radcliffe, C.E., F.Z.S.; High Bank, Tonbridge, Kent.

1898. Scherren, Henry, F.Z.S.; 9 Cavendish Road, Harringay, N.

* 1858. Sclater, Philip Lutley, D.Sc., F.R.S., Odiham Priory, Winchfield, Hants; Athenæum Club, London, S.W. (*Joint Editor.*)

325 1891. Sclater, William Lutley, M.A., F.Z.S.; South African Museum, Cape Town, South Africa.

1899. Selous, Frederick Courteney, F.Z.S.; Heatherside, Worplesdon, Surrey.

1889. Senhouse, Humphrey Patricius, B.A.; The Fitz, Cockermouth, Cumberland.

1899. Serle, The Rev. William, M.A., B.D.; The Manse, Duddingston, Edinburgh.

1900. Service, Robert; Maxwelltown, Dumfries.

330 1901. Seth-Smith, David, F.Z.S.; 14 Canning Road, Addiscombe, Croydon.

1904. Seth-Smith, Leslie Moffat, B.A.; Alleyne, Caterham Valley, Surrey.

1899. Sharman, Frederic; 47 Goldington Road, Bedford.

1871. Sharpe, Richard Bowdler, LL.D., F.L.S., F.Z.S.; Assistant Keeper, Zoological Department, British Museum (Natural History), South Kensington, S.W.

1900. Shelford, Robert; Curator of the Sarawak Museum, Kuching, Sarawak, British North Borneo; and Hill House, Harvey Road, Guildford.

335 1870. Shelley, Capt. G. Ernest, F.Z.S. (late Grenadier Guards); 39 Egerton Gardens, South Kensington, S.W.

1865. Shepherd, The Rev. Charles William, M.A., F.Z.S.; Trottiscliffe Rectory, Maidstone, Kent.

1900. Simey, Athelstane Iliff; 11 St. Peter's Road, Mile-end, E.

1882. Slater, The Rev. Henry H., M.A., F.Z.S.; Thornhaugh Rectory, Wansford, Northants.

1902. Smith, Abel Henry, M.P.; Woodhall Park, Hertford.

340 1896. Sondes, George Edward, Earl, F.Z.S.; Lees Court, Faversham.

1881. Southwell, Thomas, F.Z.S.; 10 The Crescent, Chapel Field, Norwich.

Date of Election.

1903. Sparrow, Major Richard; 7th Dragoon Guards, Canterbury; and Rookwoods, Sible Hedingham, Essex.

1893. Stanley, Samuel S.; 3 Regent Grove, Leamington, Warwickshire.

1900. Stares, John William Chester; Portchester, Hants.

345 1902. Stenhouse, John Hutton, M.B., R.N.; c/o Messrs. Woodhead & Co., 44 Charing Cross, S.W.

1904. Stephen, Julian Thoby; 22 Hyde Park Gate, S.W.

1898. Stirling, William, J.P., D.L. Co. Ross; Monar, Ross; and Kinellan Lodge, Strathpeffer, N.B.

1893. Stonham, Charles, C.M.G., F.R.C.S., F.Z.S.; 4 Harley Street, Cavendish Square, W.

1881. Studdy, Col. Robert Wright (late Manchester Regiment); Waddeton Court, Brixham, Devon.

350 1887. Styan, Frederick William, F.Z.S.; Ben Craig, Bayham Road, Sevenoaks; and Shanghai, China.

1887. Swinburne, John; Haenertsburg, Transvaal, S. Africa.

1882. Swinhoe, Col. Charles, M.A., F.L.S., F.Z.S.; 7 Gloucester Walk, Campden Hill, W.

1884. Tait, William Chaster, C.M.Z.S.; Entre Quintas 155, Oporto, Portugal.

* 1858. Taylor, Edward Cavendish, M.A., F.Z.S.; 74 Jermyn Street, S.W.

355 1873. Tegetmeier, William Bernhard, F.Z.S.; 16 Alexandra Grove, North Finchley, N.

1889. Tennant, Edward Priaulx; 40 Grosvenor Square, W.; and The Glen, Innerleithen, N.B.

1886. Terry, Major Horace A. (late Oxfordshire Light Infantry); The Lodge, Upper Halliford, Shepperton.

1904. Thompson, Lieut. William R., R.G.A.; Clarence Barracks, Portsmouth.

1900. Thorburn, Archibald; High Leybourne, Hascombe, near Godalming, Surrey.

360 1893. Thorpe, Dixon L.; Loshville, Etterby Scaur, Carlisle.

1903. Ticehurst, Claud Buchanan; Winstowe, St. Leonards-on-Sea; and St. John's College, Cambridge.

1894. Ticehurst, Norman Frederic, M.A., M.B., F.R.C.S., F.Z.S.; 35 Pevensey Road, St. Leonards-on-Sea.

1902. Townsend, Reginald Gilliat, M.A.; Buckholt, Dean, Salisbury.

Date of Election.

1893. Trevor-Battye, Aubyn B. R., F.Z.S.; Chilbolton, Stockbridge, R.S.O., Hants.

365* 1858. Tristram, The Rev. Henry Baker, M.A., LL.D., F.R.S., C.M.Z.S., Canon of Durham; The College, Durham.

1864. Upcher, Henry Morris, F.Z.S.; Sheringham Hall, Norfolk.

1894. Ussher, Richard John; Cappagh House, Cappagh, S.O., Co. Waterford, Ireland.

1890. Venour, Stephen; Fern Bank, Altrincham, Cheshire.

1884. Verey, Alfred Sainsbury; Heronsgate, near Rickmansworth.

370 1881. Verner, Lt.-Col. William Willoughby Cole; Hartford Bridge, Winchfield, Hants; and United Service Club, S.W.

1902. Wade, Edward Walter; 174 Spring Bank, Hull.

1886. Wade-Dalton, Col. H. D.; Hauxwell Hall, Finghall, R.S.O., Yorkshire.

1895. Wallis, Henry Marriage; Hilliers, Bucklebury Common, South End, near Reading.

1881. Walsingham, Thomas, Lord, F.R.S., F.Z.S.; Merton Hall, Thetford, Norfolk.

375 1899. Walton, Capt. Herbert James, M.B., F.R.C.S.; c/o Messrs. King, King, & Co., Bombay.

1872. Wardlaw-Ramsay, Lt.-Col. R. G., F.Z.S.; Whitehill, Rosewell, Midlothian, N.B.

1896. Watkins, Watkin; Highfield, Harrow; and Wellington Club, S.W.

1903. Watt, Hugh Boyd; 3 Willow Mansions, Fortune Green Road, West Hampstead, N.W.

1900. Westell, William Percival; 5 Glenferrie Road, St. Albans, Herts.

380 1891. Whitaker, Benjamin Ingham; Hesley Hall, Tickhill, Rotherham.

1891. Whitaker, Joseph I. S., F.Z.S.; Malfitano, Palermo, Sicily.

1903. White, Stephen Joseph; Oakwood, Crayford, Kent.

1903. Whitehead, Charles Hugh Tempest; Deighton Grove, York; and 1st Durham Light Infantry, Wellington, India.

1887. Whitehead, Jeffery, F.Z.S.; Newstead, Wimbledon, Surrey.

385 1904. Whitty, Charles Richard, B.A., M.D.; Minna Lodge, Hunstanton, Norfolk.

1897. Whymper, Charles; 7 James Street, Haymarket, S.W.

Date of Election.

1898. Wiglesworth, Joseph, M.D., F.R.C.P.; Rainhill, near Liverpool.

1894. Wilkinson, Johnson; St. George's Square, Huddersfield, Yorkshire.

1896. Williams, Capt. Lionel Arthur; Llangarran, Salisbury; 91 Victoria Street, S.W.; and Isthmian Club, Piccadilly, W.

390 1904. Williams, Major Charles Louis, M.D.; Indian Medical Service; c/o Messrs. Binny & Co., Madras, India.

1897. Wilson, Allan Reid; Easthill, East Bank Road, Sheffield.

1888. Wilson, Charles Joseph; 34 York Terrace, Regent's Park, N.W.

1900. Wilson, Dr. Edward Adrian, F.Z.S.; Windermere, Bushey, Herts.

1887. Wilson, Scott Barchard, F.Z.S.; Heatherbank, Weybridge Heath, Surrey.

395 1897. Witherby, Harry Forbes, F.Z.S.; Holmehurst, Burley, New Forest.

1899. Wollaston, Alexander Frederick Richmond, B.A.; 19 Upper Gloucester Place, Dorset Square, N.W.

1902. Workman, William Hughes; Lismore, Windsor, Belfast.

1875. Wright, Charles A., F.L.S., F.Z.S.; Kayhough, Kew-Gardens Road, Kew, S.W.

1871. Wright, E. Perceval, M.D., F.L.S., F.Z.S., Professor of Botany in the University of Dublin.

400 1891. Wright, Thomas, M.D.; Castle Place, Nottingham.

1904. Wright, William Crawford; Charlevoix, Marlborough Park, Belfast.

1895. Yerbury, Lt.-Col. John William (late R.A.), F.Z.S.; 8 Duke Street, St. James's, S.W.; and Army and Navy Club, S.W.

1889. Young, Capt. James B., R.N.; Ridgway House, Ottery St. Mary, Devon.

1897. Young, John Joseph Baldwin, M.A.; Richmond Park, near Sheffield.

405 1904. Young, Lieut. Martin; 1st York. & Lancaster Regt., Mhow, India.

Extra-Ordinary Members.

1899. Godwin-Austen, Lt.-Col. Henry Haversham, F.R.S., F.Z.S.; Nore, Hascombe, Godalming.

1860. Wallace, Alfred Russel, F.R.S., F.Z.S.; Broadstone, Wimborne, Dorset.

Honorary Members.

Date of Election.

1886. Ayres, Thomas; Potchefstroom, Transvaal, South Africa.

1890. Berlepsch, Graf Hans von, C.M.Z.S.; Schloss Berlepsch, Post Gertenbach, Witzenhausen, Germany.

1860. Cabanis, Dr. Jean, C.M.Z.S.; Friedrichshagen, bei Berlin.

1900. Collett, Prof. Robert, F.M.Z.S.; University Museum, Christiania.

5 1870. Finsch, Dr. Otto, C.M.Z.S.; Altewiekring 19ᵉ, Brunswick, Germany.

1894. Giglioli, Dr. Henry Hillyer, F.M.Z.S.; Reale Istituto di Studi Superiori, Florence.

1898. Goeldi, Dr. Emil A., C.M.Z.S.; Director of the Goeldi Museum, Pará, Brazil.

1893. Reichenow, Dr. Anton, C.M.Z.S.; Museum für Naturkunde, Invalidenstrasse, Berlin.

1903. Ridgway, Robert, C.M.Z.S.; Smithsonian Institution, Washington, D.C., U.S.A.

10 1890. Salvadori, Count Tommaso, M.D., F.M.Z.S.; Royal Zoological Museum, Turin.

Colonial Members.

1904. Campbell, Alfred J.; Custom House, Melbourne, Australia.

1903. Hutton, Capt. Frederick W., F.R.S., C.M.Z.S.; The Museum, Christchurch, New Zealand.

1903. Legge, Col. W. Vincent, F.Z.S.; Cullenswood House, St. Mary's, Tasmania.

1903. North, Alfred J., C.M.Z.S.; Australian Museum, Sydney, N.S.W.

Foreign Members.

1890. Allen, Joel Asaph, Ph.D., F.M.Z.S.; American Museum of Natural History, Central Park, New York, U.S.A.

1900. Bianchi, Dr. Valentine; Imperial Zoological Museum, St. Petersburg.

1904. Blasius, Geh. Hofr. Prof. Dr. Wilhelm, C.M.Z.S.; Gass-Strasse, Brunswick, Germany.

1872. Bocage, Prof. J. V. Barboza du, F.M.Z.S.; Royal Museum, Lisbon.

5 1880. Bureau, Louis, M.D.; École de Médecine, Nantes, France.

Date of
Election.

1902. Chapman, Frank Michler; American Museum of Natural History, Central Park, New York, U.S.A.

1875. Doria, Marchese Giacomo, F.M.Z.S.; Strada Nuova, 6, Genoa, Italy.

1872. Fatio, Dr. Victor, C.M.Z.S., Geneva.

1902. Ihering, Dr. Herman von; Museu Paulista, São Paulo, Brazil.

10 1886. Madarász, Dr. Julius von; National Museum, Buda-Pesth.

1903. Martorelli, Dr. Giacinto; Museo Civico di Storia Naturale, Milan, Italy.

1894. Menzbier, Prof. Dr. Michael, C.M.Z.S.; Imperial Society of Naturalists, Moscow.

1881. Meyer, Dr. Adolf Bernhard, C.M.Z.S., Director of the Royal Museum, Dresden.

1890. Oustalet, Dr. Emile, C.M.Z.S., Professeur au Muséum d'Histoire Naturelle, Jardin des Plantes, Paris.

15 1894. Pleske, H.E. Dr. Theodor, F.M.Z.S.; Office of the Company "Nadeshda," St. Petersburg.

1900. Reiser, Dr. Othmar; Landes Museum, Sarajevo, Bosnia, Austro-Hungary.

1894. Schalow, Herman; 15 Schleswiger Ufer, Berlin, N.W.

1900. Stejneger, Leonhard, C.M.Z.S.; Smithsonian Institution, Washington, D.C., U.S.A.

1902. Sushkin, Dr. Peter, C.M.Z.S.; Imperial University, Moscow, Russia.

20 1896. Winge, Herluf; University Zoological Museum, Copenhagen.

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THE IBIS.

EIGHTH SERIES.

No. XIII. JANUARY 1904.

I.—*On a Collection of Birds from the District of Deelfontein in Cape Colony.* By R. Bowdler Sharpe, LL.D. &c.

Part I.

For the very interesting collection of birds here described the British Museum is indebted to Coloned A. T. Sloggett, C.M.G., who was the Principal Medical Officer of the Imperial Yeomanry Hospital at Deelfontein during the Boer war. The actual collection was made by two taxidermists of our Museum, E. C. H. Seimund and C. H. B. Grant, who served as troopers in the Yeomanry and helped Colonel Sloggett to provide that excellent menagerie which was a source of amusement and instruction to the sick and wounded men at the Deelfontein hospital. After the conclusion of the war, many of the living animals were sent home to the Zoological Society's Gardens by Colonel Sloggett, and the fine collections of preserved mammals and birds were presented by him to the British Museum.

Seimund volunteered for the front at the beginning of the war, and fought for about eight months with Colonel Pilcher's column. Being at last struck down by enteric fever, he was sent to the Yeomanry Hospital at Deelfontein, where, on becoming convalescent, he turned his attention to the collecting of natural history specimens. At that time it was impossible to get any shot for collecting purposes, so he was forced to fall back on his early experience with the catapult; his first collection, however, obtained with that weapon alone, resulted in many skins of mammals and 81 of birds (*cf.* Bull. B. O. Club, xii. p. 2). Seimund, having been invalided home, re-enlisted on his restoration to health, and was joined by his fellow-taxidermist Claude Grant. The present collection is the result of their united labours towards the end of the war. The field-notes enclosed within square brackets are contributed by our two troopers, of whose zeal in the cause of natural history we, of the British Museum, are not a little proud, especially as many of the specimens were obtained at a time when active fighting was going on and at considerable risk. The particular value of the collection lies in the fact that the birds were obtained from month to month, and that special care was taken to obtain moulting specimens. The observations on the latter, I trust, will prove to be of some interest.

Seimund describes Deelfontein as a small hamlet in the centre of Cape Colony, about thirty miles south of De Aar; it is situated in a mountainous district at an elevation of some 4700 feet. It came into prominence during the Boer war, owing to its selection as the site of the Imperial Yeomanry Hospital. The hamlet comprised four houses and a pumping-station, where all the trains took in water before proceeding northwards. The vleys or valleys are very barren, with here and there a stunted tree, while a few tracts of bush-land may occasionally be found in the neighbourhood of the station, of about 500 by 50 yards in extent. The red soil is of a sandy character, with patches of stony gravel. The majority of the bushes are of a thorny nature, seldom exceeding fifteen feet in height, but the karoo bush is heathery in appearance, the plants being about eighteen inches apart, except where the soil is more fertile and the growth more dense.

In the following field-notes:

"*Krantz*" = the precipice round a mountain or kopje.
"*Kopje*" = a hill.
"*Spruit*" = a small stream, rill, or spring.
"*Sluit*" or "*donga*" = a dry watercourse carved out by the rain-flow from the mountains.
"*Dam*" = an artificial pond.

The sequence followed is that of Sharpe's 'Hand-list.'

1. FRANCOLINUS AFRICANUS.

Francolinus afer (Lath., nec Müll.); Sharpe, ed. Layard's B. S. Afr. p. 595 (1884).

Francolinus africanus Steph.; Grant, Cat. B. xxii. p. 152 (1893); Sharpe, Hand-l. B. i. p. 24 (1899).

a, b, c. ♂; *d.* ♀ ad.	Deelfontein,	Feb. 18–27, 1902.
e, f, g. ♂ ad.	,,	March 2, 1902.
h, i. ♀ ad.	,,	March 24–27, 1902.
k. ♂ ad.	,,	Aug. 12, 1902.
l, m. ♂ ♀ ad.	,,	Sept. 17, 23, 1902.
n, o, p. ♂ juv.	,,	Nov. 19, 1902.

The eggs measure: axis 1·55, diam 1·1 inch.

From the series now sent it appears that young birds can be distinguished by their white throats and paler lower mandibles. The older the bird, the more spotted it is beneath, and the throat is always more closely barred by reason of the dusky margins of the feathers, those of the lower throat being especially scale-like. The pretty grey edging to the feathers of the fore-neck seems to become abraded during the breeding-season, and the orange and chestnut markings on the fore-neck and chest are very apparent. In young birds these colours are more subdued and the black cross-barring is continued to the lower throat, coupled with very distinct white shaft-streaks. The plumage of the crown is blackish in young birds, with margins of sandy rufous, imparting a scaled, rather than a streaked, appearance to the head. The progress from the barred-breasted young bird to the thickly pearl-spotted adult is gradually acquired, and apparently, to a great extent, by a change of feather after the first moult, when different kinds of arrow-shaped black marks and bars are much in evidence beneath.

[The "Patrice" was very common, the birds occurring both on the veldt and on the kopjes, in coveys and in pairs. They feed morning and evening on a small bulb called "Inki root"*, which they seem to hook out of the sandy soil with their beaks. They thrive well in captivity, and a hen at Deelfontein hatched three eggs out of five. The chicks, moreover, throve well, but were killed by "dassies" (*Hyrax capensis*). These Francolins do not fly far when put up. Both male and female call, and like to get on a pointed rock to do so. The young birds call when they are about three weeks old.

The nest is a slight hollow in the ground, with a little grass as lining. It is generally placed on the side of a kopje.]

2. COTURNIX CAPENSIS.

Coturnix coturnix, pt., Sharpe, ed. Layard, pp. 603, 854 (1884).

Coturnix capensis Grant, Cat. B. xx. p. 237 (1893).

Coturnix africana T. & S.; Sharpe, Hand-l. B. i. p. 31 (1899).

Coturnix coturnix africana Reichenow, Vög. Afrikas, i. p. 506 (1901).

a. ♀ ad. Deelfontein, April 3, 1902.

[The Quail was not a common bird with us, and we only got one specimen about four miles out of Deelfontein in April.]

3. PTEROCLURUS NAMAQUA.

Pterocles namaqua Gm.; Sharpe, ed. Layard, pp. 574, 854 (1884).

Pteroclurus namaqua Grant, Cat. B. xxii. p. 10 (1893); Reichenow, Vög. Afrikas, i. p. 318 (1901); Sharpe, Bull. B. O. C. xii. p. 2 (1901).

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* "Inki" is a small bulb, so called by the Kaffir boys. It is very sweet and has grass-like leaves. The majority of South-African animals feed on it.

a, b. ♂ ♀ ad. Deelfontein, Feb. 3–8, 1903.

c, d. ♂ ad. & juv.; *e.* ♀ ad. Deelfontein, Feb. 16, 1902. (Bill in female slate-coloured; bare skin round eye bluish. In young, bare skin round eye tinged with yellow.)

f, g. ♂; *h.* ♀ ad. Deelfontein, Feb. 20–24, 1902.
i, k. ♂ juv. „ Feb. 23–27, 1902.
l, m. ♀ juv. „ March 1, 1902.
n, o. ♂ juv. „ April 3, 1902.
p, q. ♂ ♀ ad. „ May 15, 1902.
r. ♂ ad. „ Oct. 29, 1902.

Two eggs measure: axis 1·45, diam. 1·0 inch.

The male in first plumage shews no sign of the grey-tipped ocellated scapulars and inner secondaries, though these are assumed after the first moult. The young bird is rufescent on the back and mantle, which have blackish cross-bars, in fact the whole of the upper surface is more or less rufous or buff, regularly barred with black, these bars being especially distinct on the upper tail-coverts and tail. The sandy-coloured tips to the inner secondaries are vermiculated with dusky lines, instead of being pure white. The throat and sides of the face are uniform sandy rufous; the fore-neck and chest are sandy brown with dusky spots and cross-bars, which gradually vary in pattern until they result in ovate drop-like markings before the moult, when the colour of the chest becomes uniform. The full plumage of the male seems to be established at the first moult.

The nestling females are not very different from the old females, but are not so dark in tint.

[The "Namaqua Patrice" was found at Deelfontein at all times of year, and even during the breeding-season it was noticed in small coveys of from five to seven individuals. It was a common species, occurring in large flocks of up to a hundred. It evinced a partiality for the sheep-kraals, roosting at night in the rocky veldt, and coming to drink both in the morning and evening. The nest was a slight hollow in the ground, and we never found more than two eggs. In captivity the birds did not thrive well, and seemed to be constantly moulting, and dropping the feathers of the rump and tail.]

4. COLUMBA PHÆONOTA.

Columba phæonota Gray; Sharpe, ed. Layard, pp. 559, 854 (1884); Salvad. Cat. B. xxi. p. 268 (1893); Sharpe, Hand-l. B. i. p. 69 (1899); Reichenow, t. c. p. 403 (1901).

a, b. ♂ ad. et imm. Deelfontein, Feb. 20, 1902.

c. ♂ ad. Deelfontein, March 5, 1902. Iris bright yellow.

d. ♀ imm. Deelfontein, March 5, 1902. Iris pale yellow.

e. ♂ ad. Deelfontein, Oct. 22, 1902.

Young birds have much larger triangular white spots on the wings than those which are older, these white markings being more confluent and not so well defined. The rufescent feathers verge upon cinnamon, and after the first moult become of a purplish brown or maroon. There is also in the first plumage little or no evidence of the cinnamon colour on the throat and fore-neck, or of the greenish-grey tips to the feathers of the neck.

[This Pigeon was very common, and was resident all the year round. It fed in the morning and evening, visiting the mealie-fields in large flocks of from twenty to fifty individuals. The nest was made of sticks and a little grass, and was generally placed in a "krantz" on the kopje, or sometimes in a rocky sluit on the veldt: the eggs were two in number. These birds throve well in captivity and bred freely.]

5. STREPTOPELIA CAPICOLA.

Turtur capicola Sundev.; Sharpe, ed. Layard, p. 567 (1884); Salvad. t. c. p. 424 (1893); Reichenow, t. c. p. 414 (1901).

Streptopelia capicola Sharpe, Hand-l. B. i. p. 79 (1899).

a. ♀ ad. Deelfontein, March 12, 1902. Irides hazel; bill black; legs pale crimson.

b, c, d. ♂ ad. Deelfontein, April 17, 1902.

[This Turtle-Dove was local, but was found on the majority of the farms where there were a good number of trees. We did not discover the nest, but it was said to breed near by the Boers, who seemed to be very fond of the birds, and did not like them to be shot.]

6. STIGMATOPELIA SENEGALENSIS.

Turtur senegalensis (Linn.); Sharpe, ed. Layard, pp. 568, 854 (1884); Salvad. t. c. p. 448 (1893); Reichen. t. c. p. 406 (1901).

Stigmatopelia senegalensis, Sharpe, Hand-l. B. i. p. 80 (1899).

a. ♂. Deelfontein, March 18, 1902. Bill black; feet claret-coloured; iris hazel.

[A male was taken in March. We did not see more than three examples during the time that we were at Deelfontein.]

7. ŒNA CAPENSIS.

Œna capensis (Linn.); Sharpe, ed. Layard, pp. 572, 854 (1884); Salvad. t. c. p. 501 (1893); Sharpe, Hand-l. B. i. p. 83 (1899); Reichenow, t. c. p. 429 (1901); Sharpe, Bull. B. O. C. xii. p. 2 (1901).

a. ♂ ad. Deelfontein, Jan. 12, 1901.

b, c. ♂ ♀ ad. Deelfontein, Feb. 12–28, 1902.

d. ♂; *e, f.* ♀ juv. Deelfontein, March 22, 1902. Feet greyish brown.

g, h, i. ♂; *k.* ♀ ad. Deelfontein, May 15–22, 1902.

l, m. ♂ ♀ ad. Deelfontein, Nov. 5–12, 1902.

The young killed in March are spangled in the usual way with white spots at the end of the feathers, which shew a black sub-terminal bar, and as the birds are then moulting it follows that the first plumage is brown like that of the adults and that the first full plumage is grey above and on the throat and chest; the cross-band on the back is white, and the metallic wing-spot uniform steel-blue, not purple or puce-colour. This spot varies a good deal, a fact undoubtedly due, as Mr. Grant points out, to fading and change of the metallic lustre. All fully adult birds have the band across the back rufescent or isabelline brown, not whitish. By the end of May the moult has been completed, and the new plumage is very grey.

[This little Dove was common and occurred all the year round. It was very tame, going about in pairs, or in small parties of four to six individuals, which roosted at night in the orchard-trees, but during the daytime were always on the ground. The nest was placed on the rocky side of a sluit, and as a rule in a hole; it consisted of a few sticks only. This species did not do well in captivity and became very bare of feathers.]

8. FULICA CRISTATA.

Fulica cristata Gm.; Sharpe, ed. Layard, p. 621: id. Cat. B. xxiii. p. 215 (1894); id. Hand-l. B. i. p. 110; Reichen. Vög. Afrikas, i. p. 296 (1900).

a. ♂	imm.	Deelfontein,	Feb. 19, 1902.
b. ♀	ad.	„	April 17, 1902.
c. ♂	ad.	„	Nov. 23, 1902.

[This Coot is found on the majority of the large dams, especially those in which the sides are protected by bushes. The farmers like to see Coots on their dams, and they are consequently very tame, only flying from one side to the other when disturbed. We did not find a nest, but the bird breeds in the district, as we saw some young at Blauw Bank, about four miles south of Deelfontein.]

9. PODICIPES CAPENSIS.

Podicipes capensis Licht.; Grant, Cat. B. xxvi. p. 513, pls. vii. & viii. (1898); Sharpe, Hand-l. B. i. p. 113 (1899).

Podiceps minor Sharpe, ed. Layard (nec Gm.), p. 787 (1884).

Colymbus capensis Reichen. Vög. Afrikas, i. p. 15 (1900).

a. ♀ imm. Deelfontein, Nov. 22, 1902.

This example appears to be in full moult from the brown winter dress to the black of the breeding-season.

[By no means common, for we did not see more than four specimens in the fourteen months we were out. Three were noticed in November, and another was seen at Elands Kuileun, about sixteen miles east of Deelfontein.]

10. STEPHANIBYX CORONATUS.

Chettusia coronata (Bodd.); Sharpe, ed. Layard, p. 670 (1884).

Stephanibyx coronatus Sharpe, Cat. B. xxiv. p. 178 (1896); id. Hand-l. B. i. p. 152 (1899); Reichen. Vög. Afrikas, i. p. 181 (1900).

a, *b*. ♀ ad. Deelfontein, March 5, 1902. Iris yellow; bill black at tip, dull crimson at base; feet red.

c. ♀ juv. Deelfontein, March 10, 1902. Iris brownish yellow.

d, *e*. ♂ ♀. ,, March 20, 1902.

f. ♂ ad. ,, Oct. 31, 1902.

g. ♀ ad. ,, Nov. 2, 1902.

All the birds killed in February and March are more or less in moult. The new feathers of the upper parts are dark ashy brown, while by October and the breeding-season the colour has bleached to a drab-brown.

[This species was first noticed in January, and was very common on waste ground near farms. It was generally seen in flocks of from three to seven individuals, more rarely in pairs. When scared it would fly only a few yards before dropping again, but it was a very swift runner. We never found the eggs, but shot a young bird in March. It has a very loud call, from which the farmers name it the "Kewi-Kewi."]

11. OXYECHUS TRICOLLARIS.

Ægialitis tricollaris (Vieill.); Sharpe, ed. Layard, p. 662 (1884); id. Bull. B. O. C. xii. p. 2 (1901).

Oxyechus tricollaris Sharpe, Cat. B. xxiv. p. 247 (1896); id. Hand-l. B. i. p. 154 (1899).

Charadrius tricollaris Reichen. Vög. Afrikas, i. p. 176 (1900).

a. ♀ ad. Deelfontein, Jan. 3, 1901.

b. ♂ ad. ,, Feb. 10, 1901.

c, *d*. ♂ ♀ ad. ,, Feb. 21–23, 1902.

e. ♂ ad. ,, Oct. 29, 1902.

f. Pull. ,, Nov. 11, 1902.

Iris yellow, with an orange ring round the eye; base of lower mandible pale yellow; feet greyish yellow.

The characters by which *O. bifrontatus* is said to be distinguishable seem to me of doubtful value, and some of them are of no account. A young bird, which had already nearly completed its moult on February 10th, still retained a trace of sandy margins to some of the wing-feathers and had a distinctly greyish throat, so that the grey throat may be a sign of immaturity, though there is no appearance of grey on the forehead. The connexion of the white eyebrow with the forehead depends mostly on the preparation of the skin, and in the Deelfontein series the two are joined together, so that this character is not specific.

[Very common at all the dams and stagnant pools, being found all the year round. It was always solitary or in pairs, never in flocks, and was very tame, its habits being similar to those of our Ringed Plover. The nest was a hollow scraped in pebbly ground, with a few bits of coarse grass and pieces of stick, and was generally placed within a few feet of the water. Eggs 1–3, measuring: axis 1·2, diam. 0·85 inch.]

12. ÆGIALITIS PECUARIA.

Ægialitis varia (nec Linn.); Sharpe, ed. Layard, p. 661 (1884).

Ægialitis pecuaria Sharpe, Cat. B. xxiv. p. 297 (1896); id. Hand-l. B. i. p. 155 (1899).

Charadrius varius Reichenow (nec Linn.), Vög. Afrikas, i. p. 171 (1900).

a, b. ♂. Deelfontein, March 18, 1902.

[This bird was not common with us. Two were seen in March at Erasmus' Dam, about five miles from Deelfontein. Their habits were similar to those of the British Ringed Plover.]

13. RECURVIROSTRA AVOCETTA.

Recurvirostra avocetta L.; Sharpe, ed. Layard, p. 673 (1884); id. Cat. B. xxiv. p. 326 (1896); id. Hand-l. B. i. p. 157 (1899); Reichenow, t. c. p. 206 (1900).

a, b. ♂. Deelfontein, Feb. 15, 1902. Iris reddish orange; bill black; feet, toes, and webs pale slate-coloured.

These examples have still a few old feathers in the wings, but most of the quills seem to be moulted.

[In February the Avocets arrived in fair numbers, and were common round all the dams. The Boers, who call the bird "Sprinken Voul," had never seen so many as in 1902. It does not breed in the neighbourhood.]

14. PAVONCELLA PUGNAX.

Machetes pugnax (Linn.); Sharpe, ed. Layard, p. 685 (1884).

Totanus pugnax (Linn.); Seeb. Distr. Charadr. p. 373 (1888); Reichenow, Vög. Afrikas, i. p. 216 (1900).

Pavoncella pugnax Sharpe, Cat. B. xxiv. p. 500 (1896); id. Hand-l. B. i. p. 162 (1899).

a. ♀ ad. Deelfontein, Feb. 24, 1902. Feet yellowish green.

b. ♂ ad. Deelfontein, March 10, 1902.

The male bird is about to put on his frill, which would have been white.

[The Ruff was very common at Deelfontein from January to March, being found in large flocks round all the dams, and feeding in the wheat-fields. We found water-insects and also wheat in the stomach.]

15. GALLINAGO NIGRIPENNIS.

Gallinago nigripennis Bp.; Sharpe, ed. Layard, p. 676 (1884); id. Cat. B. xxiv. p. 631 (1896); id. Hand-l. B. i. p. 165 (1899); Reichenow, Vög. Afrikas, i. p. 236 (1900).

a. ♀ ad. Deelfontein, July 20, 1902.

[We saw Snipes on three occasions, but whether they were all of the present species we cannot say. One was noticed on the dry road about six miles from any water, and the others at Mynfontein dam, ten miles from Deelfontein.]

16. CURSORIUS RUFUS.

Cursorius rufus Sharpe, ed. Layard, pp. 653, 855 (1884); id. Cat. B. xxiv. p. 34 (1896); id. Hand-l. B. i. p. 170 (1899); Reichenow, t. c. p. 155 (1900).

a, b. ♀. Deelfontein, March 19–22, 1902. Bill almost black; feet enamelled white; iris dark hazel. These specimens had nearly completed their moult, except for the outermost primaries.

c. ♂. Deelfontein, May 7, 1900.

[This species was found from March to May, but was not common. It occurred in twos and threes on bare patches of the veldt, generally along a road. We did not find a nest.]

17. RHINOPTILUS AFRICANUS.

Cursorius bicinctus (Temm.); Sharpe, ed. Layard, pp. 654, 855 (1884).

Rhinoptilus bicinctus Sharpe, Cat. B. xxiv. p. 43 (1896); id. Hand-l. B. i. p. 170 (1899); id. Bull. B. O. C. xii. p. 2 (1901).

Rhinoptilus africanus (Temm.); Reichenow, Vög. Afrikas, i. p. 159 (1900).

a. ♂ ad. Deelfontein, Feb. 9, 1901.
b, c. ♂ ad. „ Feb. 16–20, 1902.
d. ♀ ad. „ May 9, 1902.
e. ♂ ad. „ July 4, 1902.
f. ♀ ad. „ Sept. 8, 1902.
g. ♂ ad. „ Oct. 28, 1902.

The series shews a graduation from a dark to a light sandy rufous aspect of the upper surface. The darker specimens are those which have newly moulted in February; and at that time of year both the upper and under surface of the body are much intensified in colour, while specimens obtained in November, when the plumage has become worn from exposure, are very much paler.

[This Courser was a fairly common resident throughout the year, being generally seen in pairs. The birds are very swift runners, and when put up only go a few yards before settling again. They become very tame in captivity, especially young birds brought up by hand.]

18. GLAREOLA MELANOPTERA.

Glareola melanoptera Nordm.; Sharpe, ed. Layard, pp. 650, 855 (1884); Sharpe, Cat. B. xxiv. p. 57 (1896); id. Hand-l. B. i. p. 171 (1899); Reichenow, t. c. p. 145 (1900).

a, b, c. ♂; *d.* ♀ ad.; *e.* Jr. Deelfontein, Feb. 27–28, 1902.

A very old male has an inclination to a dull rufous collar round the hind-neck, and the breast rich fawn-buff, while the ashy fore-neck and chest are also pervaded with buff, the line encircling the throat being well pronounced. The immature birds have all completed their moult, and are to be recognised by a few sandy-rufous edgings to the feathers of the crown, and the light sandy margins of the chest-feathers. The black collar round the throat is also incomplete.

[Large flocks of these Pratincoles visited us in February, following a small dark brown beetle, of which their crops were full. They only stayed a few days.]

19. ŒDICNEMUS CAPENSIS.

Œdicnemus capensis Licht.; Sharpe, ed. Layard, pp. 645, 855 (1884); id. Cat. B. xxiv. p. 15 (1896); id. Hand-l. B. i. p. 172 (1899); Reichenow, t. c. p. 198 (1900).

a. ♀ ad. Deelfontein, March 10, 1902.
b, c, d. ♀ ad. „ April 3, 23, 27, 1902.
e. ♂ ad. „ May 30, 1902.
f. ♂ ad. „ Sept. 17, 1902.

A considerable amount of slight variation in the barring occurs in this series, but nothing that seems to shew a change or sequence of plumage.

[The Dikkop, or Thickhead, is fairly common, visiting the dams and manure-heaps at night to feed. The birds are very tame and are good runners. Dozens of them used to come to the rubbish-heaps at Deelfontein every night. The eggs are two, laid in a slight hollow in the ground.]

20. COMPSOTIS LEUCOPTERA.

Otis afroides Smith; Sharpe, ed. Layard, pp. 642, 855 (1884); Reichenow, t. c. p. 254 (1900).

Compsotis leucoptera (Reichenb.); Sharpe, Cat. B. xxiii. p. 294 (1894); id. Hand-l. B. i. p. 74 (1899).

a. ♂ ad. Deelfontein, Feb. 4, 1901.
b, c. ♂ ad. „ April 18, 1902.

[This Bustard was resident all the year in the district, and certainly bred there, though we never managed to find the nest. It is a very solitary bird, and, when frightened, is unspeakably noisy. It is rather shy, but can be approached on horseback. It is very fond of feeding along the roads, and we found insects and the tops of the karoo bush in the stomach. It did not bear captivity well.]

21. HETEROTETRAX VIGORSI.

Otis scolopacea Temm.; Sharpe, ed. Layard, pp. 637, 854 (1884).

Heterotetrax vigorsi (Smith); Sharpe, Cat. B. xxiii. p. 296 (1894); id. Hand-l. B. i. p. 174 (1899).

Otis vigorsi Reichenow, t. c. p. 248 (1900).

a. ♀ ad. Deelfontein, Feb. 26, 1902.

b, c. ♂ ♀ ad. Deelfontein, March 19, 1902. Feet dull chrome-yellow; bill dark slate-coloured, the base of the lower mandible whitish.

d. ♀ ad. Deelfontein, March 22, 1902.

e. ♀ ad. „ April 9, 1902. Irides brownish grey.

f. ♂ ad. „ July 6, 1902.

g. ♂ ad. „ Sept. 6, 1902.

In colouring the sexes are alike, but the female has somewhat coarser and more distinct patches of black on the upper surface, and has more distinct black bars across the tail.

By some mistake I have given the axillaries of this species as "white" in the "Key" in the 'Catalogue of Birds.' They should have been described as brown with blackish vermiculations, like the flanks. A pair of adult birds measure:—

	Total length.	Culmen.	Wing.	Tail.	Tarsus.
	in.	in.	in.	in.	in.
♂ ad.	c. 21·0	1·7	13·5	6·0	3·2
♀ ad.	c. 21·0	1·7	12·5	5·6	3·2

[Like the foregoing species, this Bustard was very fond of frequenting the sides of roads, and was found in batches of five to seven individuals It was very common and not very noisy, though wild at times, when it had to be approached on horseback. It was resident with us and bred. Though we did not find the eggs, we caught some newly hatched young, but could not bring them up.]

22. NEOTIS LUDWIGI.

Otis ludwigi Rüpp.: Sharpe, ed. Layard, pp. 636, 854 (1884); Reichenow, t. c. p. 246 (1900).

Neotis ludwigi Sharpe, Cat. B. xxiii. p. 299 (1894); id. Hand-l. B. i. p. 174 (1899).

a. ♂ ad. Deelfontein, July 5, 1902.

This is a very old male bird, and has a shade of bluish grey separating the white of the hind-neck from the rufous patch.

[We obtained only one specimen of this Bustard, which was not common and was very wild. We occasionally saw small flocks of five or six individuals.]

23. TRACHELOTIS CÆRULESCENS.

Otis cærulescens Vieill.; Sharpe, ed. Layard, p. 638 (1884); Reichenow, t. c. p. 251 (1900).

Trachelotis cærulescens Sharpe, Cat. B. xxiii. p. 308 (1894); id. Hand-l. B. i. p. 175 (1899).

a. ♂ ad. Deelfontein, July 10, 1902.

b. ♂ ad. „ July 13, 1902. Bill dark slate-coloured, paler at the base; feet yellow; iris yellow.

c. ♀ imm. Deelfontein, July 13, 1902.

d. ♂ imm. „ Aug. 2, 1902.

The female above mentioned has the ear-coverts pale cinnamon. Both it and the male killed on Aug. 2 are immature, and have the head and the under tail-coverts vermiculated with sandy rufous.

[Common in small flocks of five or six. From its cry of "De Wet," this bird was named by the troopers "De Wet's scout." It was easily approached on horseback, and its food was found to consist of insects and the tops of karoo bushes. It bred in the neighbourhood, though we did not find the eggs. We brought up some young, which became very tame. One of them used to run about the camp and feed out of the men's hands, but at last was unfortunately trodden on and killed.]

24. TETRAPTERYX PARADISEA.

Anthropoides paradisea (Licht.); Sharpe, ed. Layard, p. 628 (1884); Reichenow, t. c. p. 263 (1900).

Tetrapteryx paradisea Sharpe, Cat. B. xxiii. p. 268 (1894); id. Hand-l. B. i. p. 178 (1899).

a. ♀ ad. Deelfontein, March 19, 1902.
b. ♀ pull. „ April 3, 1902.

One egg, which measures: axis 4·2, diam. 2·55 inches.

The young bird is grey like the adult, but differs in having the crown covered with downy feathers of a pale tawny colour.

[The Stanley Crane was very common on most of the farms, generally occurring in pairs during the breeding-season, but it was rather wild. These birds were fond of frequenting the wheat-fields, where they lived principally on corn and other grain, sometimes as many as a dozen being seen together. They are often brought up tame by the Kaffirs, and kept at their kraals. The flesh is very good eating. The eggs are two in number, and the nest, which is made of sticks, is placed on the top of a bush about twelve feet from the ground, covering its entire summit. The eggs are much sought after by the Kaffirs for food.]

25. SCOPUS UMBRETTA.

Scopus umbretta Gm.; Sharpe, ed. Layard, p. 725 (1884); id. Cat. B. xxvi. p. 288 (1898); id. Hand-l. B. i. p. 193 (1899).

a. ♂ ad. Deelfontein, March 10, 1901.
b, c. ♂ ♀ ad. „ March 5, 1902.
d. ♀ ad. „ April 8, 1902.

The female procured on the 8th of April seems to me to be somewhat immature. It has the plumage of a paler brown, and has nearly completed its moult to the fully adult plumage, in which the brown has a purple gloss. The under tail-coverts and under wing-coverts in the young bird shew traces of dusky cross-bands, which I take to be another sign of immaturity.

[The "Hammer-Kop" was a common resident all the year round, either solitary or in pairs. It throve well in captivity and became fairly tame. The nest was a very large structure, and in our neighbourhood was usually placed in the fork of a willow tree near a dam.

26. ARDEA CINEREA.

Ardea cinerea Linn.; Sharpe, ed. Layard, p. 708 (1884); id. Cat. B. xxvi. p. 74 (1898); id. Hand-l. B. i. p. 194 (1899); Reichenow, t. c. p. 379 (1901).

a. ♂ juv. Deelfontein, Feb. 19, 1901.
b. ♂ ad.; *c.* ♀ imm. Deelfontein, March 10, 1902.
d. ♂ ad. Deelfontein, Aug. 8, 1902.

The male killed in August is in beautiful plumage with the long crest-plumes fully developed.

[The Heron is very common, being found near all the dams; it is, however, rather wild. The nests sometimes number thirty in a tree, and, as suitable sites are not plentiful, we believe that *A. melanocephala* breeds in the same colonies, but this we never could prove satisfactorily.]

27. ARDEA MELANOCEPHALA.

Ardea melanocephala Vig. & Childr.; Sharpe, ed. Layard, p. 709 (1884); id. Cat. B. xxvi. p. 70 (1898); id. Hand-l. B. i. p. 194 (1899); Reichenow, t. c. p. 380 (1901).

a. ♂ ad. Deelfontein, Feb. 18, 1902. Iris yellow.
b. ♀ ad. „ March 19, 1902.
c. ♀ ad. „ April 4, 1902.

The two female birds shew a slight tinge of lilac on the sides of the face, lower throat, and fore-neck.

[Not so common as *A. cinerea*, but found on most of the farms where there is any water. The flesh of both species of Herons made excellent bait for wild cats and lynxes, which were attracted by the fishy smell.]

28. CASARCA CANA.

Casarca cana (Gm.); Sharpe, ed. Layard, p. 753 (1884); Salvad. Cat. B. xxvii. p. 182 (1895); Sharpe, Hand-l. B. i. p. 216 (1899); Reichenow, t. c. p. 137 (1900).

a, b. ♂ ♀. Deelfontein, June 10, 1902.

A clutch of eggs, ten in number, measure: axis 2·55–2·8 inches, diam. 1·8–1·95. The colour is creamy-white.

[Very common and occurring all the year round. It is generally found in pairs, but it is not unusual to see half a dozen together on a dam feeding or resting. The nest is in the hole of an ant-bear or porcupine on the veldt. It took us between five and six hours to dig one out. The eggs are from eight to ten in number. This Sheld-duck is much appreciated by the farmers as a delicacy.]

29. ANAS SPARSA.

Anas sparsa Smith; Sharpe, ed. Layard, p. 756 (1884); Salvad. Cat. B. xxvii. p. 213 (1895); Sharpe, Hand-l. B. i. p. 216 (1899); Reichenow, t. c. p. 115 (1900).

a. ♂ ad. Deelfontein, April 20, 1902.

[Fairly common, generally found in pairs, and said by the farmers to breed in the neighbourhood, though we never found a nest. It is not very wild and thrives well in captivity.]

30. AETHYIA ERYTHROPHTHALMA.

Aythya capensis (Cuv.); Sharpe, ed. Layard, p. 760 (1884).

Nyroca brunnea Eyton; Salvad. Cat. B. xxvii. p. 351 (1895).

Nyroca erythrophthalma (Wied); Salvad. Ibis, 1896, p. 101.

Aythya erythrophthalma Sharpe, Hand-l. B. i. p. 223 (1899).

Nyroca capensis Reichenow, t. c. p. 108 (1900).

a, b. ♂. Deelfontein, Sept. 5, 1902.

[This was a very rare bird, and only a single pair was seen. Both individuals were very tame, and when the first was shot, the second came and pitched beside its dead companion.]

31. ERISMATURA MACCOA.

Erismatura maccoa (Smith); Sharpe, ed. Layard, p. 762 (1884); Salvad. Cat. B. xxvii. p. 448 (1895); Sharpe, Hand-l. B. i. p. 227 (1899); Reichenow, t. c. p. 105 (1900).

a. ♂ ad. Deelfontein, May 6, 1902.

[Very rare near Deelfontein. Only two specimens were seen and procured; one of them was given by Colonel Sloggett to the Cape Town Museum. The birds were very tame.]

32. SERPENTARIUS SERPENTARIUS.

Serpentarius secretarius (Scop.); Sharpe, Cat. B. i. p. 45 (1874); id. ed. Layard, p. 8 (1875).

Serpentarius serpentarius (Miller); Sharpe, Hand-l. B. i. p. 241 (1899); Reichenow, t. c. p. 528 (1901).

a. ♂ ad. Deelfontein, Sept. 18, 1902. Bill bluish, almost livid; bare skin round eyes and cere orange-chrome; feet pale flesh-coloured; iris silvery grey, with dark markings.

[In 1901 the Secretary-birds were very common, but as the block-houses were built they were driven away, till in 1902 only an occasional individual was to be seen. We took half a dozen nestling Partridges out of the crop in one instance, and there is no doubt that they are very destructive to young hares and birds.]

33. MELIERAX CANORUS.

Melierax canorus (Risl.); Sharpe, Cat. B. i. p. 87 (1874); id. ed. Layard, p. 17 (1875); id. Hand-l. B. i. p. 247 (1899); Reichenow, t. c. p. 542 (1901).

a. ♂ ad. Deelfontein, April 30, 1902.
b, c. ♂ ad. „ May 21–25, 1902.
d. ♀ ad. „ June 30, 1902.
e. ♀ ad. „ Sept. 28, 1902.

A sign of immaturity in both males and females, even when in full grey dress, is to be seen in the brownish shade which overspreads the grey, and in the broader bars on the under surface. The one really old male in the collection is much more silvery grey in colour, and has the barring of the under surface narrower. These birds have also a very broad black border to the grey scapulars and inner secondaries.

[Very common, found on the kopjes and veldt, often sitting on bushes in the latter, watching for its prey. It bred in the neighbourhood, but we never succeeded in finding the nest.

This hawk was often taken in gin-traps baited with a rat for "meerkats." It is very shy, and can seldom be approached on foot, but may be easily shot from horseback. It has a very loud call and is a bird of remarkably quiet and active habits. It did well in captivity.]

34. AQUILA RAPAX.

Aquila rapax (Temm.); Sharpe, Cat. B. i. p. 242 (1874); id. ed. Layard, p. 35 (1875); id. Hand-l. B. i. p. 261 (1899); Reichenow, t. c. p. 587 (1901).

a. ♂. Deelfontein, July 13, 1902.

[This Eagle was seen on only two or three occasions, and we were able to shoot but one specimen.]

35. BUTEO JAKAL.

Buteo jakal (Daud.); Sharpe, Cat. B. i. p. 173 (1874); id. ed. Layard, p. 26 (1875); id. Hand-l. B. i. p. 255 (1899); Reichenow, t. c. p. 591 (1901).

a.	♀ imm.	Deelfontein,	March 1, 1902.
b.	♂ ad.	,,	July 13, 1902.
c.	♂ ad.	,,	Aug. 2, 1902.

One egg, which measures: axis 2·2 inches, diam. 1·9.

The moulting of this species is evidently somewhat irregular, as in all Accipitres, for the birds shot in March and July shew traces of immaturity, with more or less of a subterminal black bar on the central tail-feathers—especially on the first of them. The tips of the feathers of the under surface are also rufescent, instead of white (*cf.* Sharpe, Cat. B. i. *l. c.*). Although mature as regards its plumage otherwise, the male killed in July has an isabelline-buff throat streaked with black.

[Very common all the year round, nesting on the kopjes and in the vleys. It makes a large structure, returning year after year and adding a few sticks. A nest with one egg was found on the top of a tall poplar tree.

This Buzzard is supposed to do much harm to the farmer in the way of capturing chickens, and is said also to take kids and lambs. The Boers call it the "Lamb-catcher," and kill it on every occasion. It thrives well in captivity, but it is a bird of sluggish habits.]

36. FALCO BIARMICUS.

Falco biarmicus (Temm.); Sharpe, Cat. B. i. p. 391 (1874); id. ed. Layard, p. 58, pl. ii. (1875); id. Hand-l. B. i. p. 274 (1899); Reichenow, t. c. p. 624 (1901).

a. ♀ juv. Deelfontein, March 15, 1902. Bill dark slate-coloured, tip and base lighter; feet greenish yellow; iris dark hazel; orbital skin bluish yellow.

b. ♂ ad. Deelfontein, July 26, 1902.

[These birds generally hunt in pairs, and when hovering over an owl make a great noise, especially just after their swoop. They feed chiefly on pigeons, and the young specimen obtained was shot while chasing our tame White-necked Ravens. They breed up in the krantzes of very high kopjes, but the nests that we met with were inaccessible.]

37. CERCHNEIS RUPICOLA.

Cerchneis rupicola (Daud.); Sharpe, Cat. B. i. p. 429 (1874); id. ed. Layard, p. 62 (1875); id. Hand-l. B. i. p. 277 (1899); Reichenow, t. c. p. 640 (1901).

a, b. ♂ ♀ ad. Deelfontein, Feb. 25–26, 1902.
c. ♂ juv. „ March 5, 1902.
d. ♂ juv. „ March 15, 1902. Bill light slate-coloured, darker at tip; feet, cere, and orbits bright yellow; iris dark hazel.
e. ♀ ad. Deelfontein, May 28, 1902.
f. ♂ ad. „ June 13, 1902.
g. ♂ ad. „ Oct. 24, 1902.

The changes of plumage in this Kestrel are very well marked in the present series, where there are females which resemble males in plumage, with blue-grey heads (like the male).

It would seem, therefore, that Mr. Sowerby was right in determining a specimen with a blue-grey head to be a female, although it looks like a fully adult male [see my note on the specimen, Ibis, 1898, p. 575]. On examining the series in the British Museum, I find further confirmation of the similitude of the sexes in colour, for a female bird obtained by Mr. T. E. Buckley on Elira Hill is in full chestnut-and-grey plumage, with the black spots on the back and breast reduced in size, but the tail barred with black.

Another female obtained near Newcastle, in Natal, by Colonel E. A. Butler is similar.

Young birds of both sexes are more fawn-coloured and not so maroon as adults, while they have the head like the back, and streaked with black like the hind-neck; the blackish bars on the rump, upper tail-coverts, and tail are broader than in adults, and the spots and streaks on the back and breast are larger and coarser. These spots diminish in size with age and with each successive moult, gradually narrowing from arrow-shaped or bar-shaped spots and streaks, which become more longitudinal and in very old birds are reduced to a minimum, so that the mantle and the breast are almost uniform.

Angolan birds are darker than those from the Cape, and there is also a somewhat smaller race on the Zambesi [wing 8·4], which extends into Nyasa-land, whence there is a specimen in the British Museum [wing 8·8]. The wing in the Deelfontein series measures 9·1 to 9·7 inches, both males and females attaining the latter dimension.

[This Kestrel is a very common resident, nesting in crevices of the krantzes. It is found both on the veldt and on kopjes, feeding chiefly on insects. It became very tame in confinement, and we trained some individuals to hunt.]

38. CERCHNEIS RUPICOLOIDES.

Cerchneis rupicoloides (Smith); Sharpe, Cat. B. i. p. 432 (1874); id. ed. Layard, p. 63 (1875); id. Hand-l. B. i. p. 277 (1899); Reichenow, t. c. p. 639 (1901).

a. ♂. Deelfontein, May 23, 1902. Bill blue-grey, black at tip; lower mandible greyish yellow, inclining to lemon-yellow; feet lemon-yellow, claws black; cere lemon-yellow; iris silver-grey; orbital skin lemon-yellow.

[Not plentiful, but noticed all the year round, though we did not find the nest. It is very fond of sitting on the tops of the bushes in the veldt, watching for small mammals and birds, which, with insects, constitute its food. Like the smaller Kestrel, it becomes very tame in confinement, feeding readily from the hand, and we trained one to fly after mice.]

39. ASIO NISUELLA.

Strix nisuella Daud. Traité, ii. p. 187 (1800, ex Levaill. i. t. 39).

Asio capensis (Smith); Sharpe, Cat. B. ii. p. 239 (1875); id. ed. Layard, p. 78 (1875).

Asio nisuella, Reichenow, in Werth. Mittl. Hochl. p. 278 (1898); Sharpe, Hand-l. B. i. p. 280 (1899); Reichenow, Vög. Afr. i. p. 659 (1901).

a, b. ♂ ad. Deelfontein, Aug. 10, 1902.

Professor Reichenow thinks that Levaillant's plate of the "Chou cou hou" is meant to represent the Cape Eared Owl, which Smith called *Otus capensis.* Sundevall identified Levaillant's bird as *Bubo maculosus,* and most authors have followed him. The plate is very bad and difficult to identify, but I think that Prof. Reichenow is right in his idea, and that it was intended for the *Asio.* The only other way out of the difficulty is to put the plate aside altogether as unrecognisable, and take the first name which is beyond suspicion.

[Only two specimens were seen by us in the whole fourteen months. These were very tame and were procured in the long grass at the base of the kopjes.]

40. BUBO CAPENSIS.

Bubo capensis Smith; Sharpe, Cat. B. ii. p. 27 (1875); id. ed. Layard, p. 70 (1875); id. Hand-l. B. i. p. 283 (1899); Reichenow, t. c. p. 653 (1901).

a. ♀ ad. Deelfontein, April 14, 1902.

[Only one example was seen, which came and sat on our marquee.]

41. BUBO MACULOSUS.

Bubo maculosus (Vieill.); Sharpe, Cat. B. ii. p. 30 (1875); id. ed. Layard, p. 73 (1875); id. Hand-l. B. i. p. 283 (1899); Reichenow, t. c. p. 654 (1901).

a. ♂ ad. Deelfontein, Feb. 23, 1902.
b, c. ♂ ♀ ad. „ March 5, 1902.
d. ♀ ad. „ March 8, 1902.
e, f. ♂ ♀ ad. „ March 29, 1902.
g. ♂ ad. „ April 30, 1902.
h. ♀ ad. „ May 15, 1902.
i. ♂ ; *k, l.* ♀ ad. „ May 23–25, 1902.
m. ♀ ad. „ June 29, 1902.
n. ♀ ad. „ Sept. 17, 1902.

This interesting series shews that in the South-African form, *Bubo maculosus*, the dark phase is predominant, and the rufous phase somewhat exceptional, but the latter occurs in both sexes, and is therefore an evident phase of plumage.

I consider that the true *B. maculosus* extends into Nyasaland and East Africa, and that in Somali-land and Abyssinia it is replaced by a race *B. cinerascens*, which I have misnamed *B. abyssinicus* more than once. The two forms are very closely allied, and are indeed sometimes barely distinguishable.

[This Eagle-Owl was very common with us all the year round, but we never succeeded in finding a nest. It could be seen any evening sitting on the telegraph-poles, and roosting on the kopjes and veldt. Those that we kept alive throve and became very tame.]

42. STRIX FLAMMEA.

Strix flammea Linn.; Sharpe, Cat. B. ii. p. 291 (1875); id. ed. Layard, p. 82 (1875); id. Hand-l. B. i. p. 300 (1899).

Strix capensis Smith; Reichenow, t. c. p. 678 (1901).

a. Ad. Deelfontein, June 27, 1902.
b. ♀ ad. „ Nov. 9, 1902. Died in cage.

[Not a common bird, and we did not find a nest. It is met with both on the kopjes and on the veldt. The Boers call this the "Lady" Owl.]

43. MEROPS APIASTER.

Merops apiaster Linn.; Sharpe, ed. Layard, p. 96 (1875);

id. Cat. B. xvii. p. 63 (1892); id. Hand-l. B. ii. p. 74 (1900); Reichenow, Vög. Afrikas, ii. p. 320.

a, b, c, d. ♂ ad. Deelfontein, Nov. 8–30, 1902.

All four specimens are in full plumage.

[This Bee-eater arrived in November and was fairly common. It was generally to be found where there were tall bushes, and again in kloofs in the mountains. It was very fond of resorting to orchards to roost, coming there in small flocks of about a dozen. We did not find it breeding, but the Boers say that the birds lay their eggs in holes in the sluits.]

44. CAPRIMULGUS EUROPÆUS.

Caprimulgus europæus Linn.; Sharpe, ed. Layard, p. 83 (1875); Hartert, Cat. B. xvi. p. 526 (1892); id. Tierr., Caprimulgidæ, p. 56 (1897); Sharpe, Hand-l. B. ii. p. 87 (1900); Reichenow, Vög. Afrikas, ii. p. 352 (1902).

a. ♀. Deelfontein, March 5, 1902.

[One specimen of the European Nightjar was shot near the dam of a farm.]

45. CAPRIMULGUS RUFIGENA.

Caprimulgus rufigena Smith; Sharpe, ed. Layard, p. 85 (1875); Hartert, Cat. B. xvi. p. 532 (1892); id. Tierr., Caprimulgidæ, p. 58 (1897); Sharpe, Hand-l. B. ii. p. 88 (1900); Reichenow, Vög. Afrikas, ii. p. 356.

a, b. ♂ pull. Deelfontein, Jan. 7, 1901.

c, d. ♂; *e.* ♀ ad. Deelfontein, March 5–28, 1902.

f. ♂ ad. Deelfontein, Nov. 10, 1902.

[Nightjars were never common with us, and were not noticed on the veldt, but only round the farms and near the dams. They arrived in November.]

46. CYPSELUS CAFFER.

Cypselus caffer (Licht.); Sharpe, ed. Layard, p. 92 (1875); id. Hand-l. B. ii. p. 96 (1900).

Micropus caffer Hartert, Cat. B. xvi. p. 450 (1892).

Apus caffer Hartert, Tierr., Cypselidæ, p. 87 (1897); Reichenow, t. c. p. 380.

a, b. ♂ ♀ ad. Deelfontein, Oct. 29–31, 1902.
c. ♂ ad. „ Nov. 22, 1902.
d. ♀ ad. „ March 4, 1902.

[About the end of September these Swifts arrived and were very common, being found in flocks even during the breeding-season. Numbers would fly in the evening in close order to a great height, their whistling call being heard for a long distance. The nests were built of mud and feathers, and were placed, often two or three together, under the krantzes on the kopjes.]

47. CYPSELUS AFFINIS.

Cypselus affinis J. E. Gray; Sharpe, ed. Layard, p. 94 (1875); id. Hand-l. B. ii. p. 96 (1900).

Micropus affinis Hartert, Cat. B. xvi. p. 453 (1892).

Apus affinis Hartert, Tierr., Cypselidæ, p. 87; Reichenow, t. c. p. 382.

a. ♂. Deelfontein, March 14, 1902. Shot on a kopje.

[This Swift was in company with *C. caffer*, and the differences were not noticed at the time.]

48. COLIUS COLIUS.

Colius capensis Gm.; Sharpe, ed. Layard, pp. 552, 853 (1875–84).

Colius colius (L.); Sharpe, Cat. B. xvii. p. 343 (1892); id. Hand-l. B. ii. p. 146 (1900); Reichenow, Vög. Afrikas, ii. p. 207.

a. ♂; *b, c.* ♀ ad. Deelfontein, March 10, 1902.
d, e. ♂ ♀ juv. Deelfontein, March 19, 1902.
f. ♂ ad. Deelfontein, March 25, 1902. Shot on a kopje.
g. ♂ juv. Deelfontein, April 8, 1902. Iris hazel.
h, i. ♂; *k.* ♀ ad. Deelfontein, Dec. 22, 1902.

The sexes seem to be alike in plumage. The young birds shew the black-and-white pattern of the lower back as do the adults; but as regards the under surface they are light grey on the throat, with scarcely any pink on the fore-neck and chest, while the lower parts from the fore-neck downwards are ochreous buff.

[This "Muisvogel" was very common all the year round, visiting the orchards after the fruit. We have also seen it on the kopjes in company with *C. erythromelon.* It was always found in small flocks, varying in number from three or four to nine, and was fairly tame; it bred in the neighbourhood, but we could not find the nest. It did not thrive in captivity.]

49. COLIUS ERYTHROMELON.

Colius erythromelon (Vieill.): Sharpe, ed. Layard, pp. 551, 853 (1875–84); id. Cat. B. xvii. p. 344 (1892); id. Hand-l. B. ii. p. 146 (1900).

Colius indicus Lath.: Reichenow, Vög. Afrikas, ii. p. 208.

a, b. ♂; *c, d, e.* ♀ ad.	Deelfontein.	March 7–25, 1902.
f. ♂ juv.	,,	April 8, 1902.
g. ♂ juv.	,,	May 19, 1902.
h, i, k. ♂ ad.	,,	Dec. 22, 1902.

An old male had the soft parts coloured as follows:—"Iris yellow; bare skin round the eye and lores carmine; base of bill and feet crimson; tip of both mandibles black." A young male had the "iris 'hazel,' the bare skin round the eye and lores yellow, with a slight tinge of red; gape yellow; base of bill greenish, the tip bluish slate-coloured; feet dull crimson." Besides the differences in the colour of the soft parts, the young Colies have some ochreous-brown feathers on the head, and the tawny buff on the forehead is much restricted. The under surface of the body is much paler than in the adults, and there are slight indications of dusky barring on the breast and abdomen. The chief difference in the young birds is, however, the tawny-buff inner web of the outer tail-feathers, this colour being visible both above and below.

[This we called the Mountain Coly, as it kept closely to the kopjes, occasionally visiting the orchards to feed on figs. It was not so common as *C. colius,* with which it would consort, and was fairly tame. No nest was found, but we obtained some young birds.]

50. CUCULUS CANORUS.

Cuculus canorus Linn.; Sharpe, ed. Layard, pp. 147, 809 (1875–84); Shelley, Cat. B. xix. p. 245 (1891); Sharpe, Hand-l. B. ii. p. 158 (1900); Reichenow, Vög. Afrikas, ii. p. 89.

a. ♀ imm. Deelfontein, Oct. 29, 1902.

This is an interesting specimen, shewing that the young birds commence to moult soon after leaving their northern home. This female, though still retaining traces of the juvenile white nape-patch, has already several freshly moulted grey feathers.

[This, the only specimen seen, was shot about six miles from Deelfontein.]

51. TRICHOLÆMA LEUCOMELAS.

Pogonorhynchus leucomelas (Bodd.); Sharpe, ed. Layard, pp. 173, 811 (1875–84).

Tricholæma leucomelan Shelley, Cat. B. xix. p. 31 (1891); Sharpe, Hand-l. B. ii. p. 180 (1900); Reichenow, Vög. Afrikas, ii. p. 134.

a, b. ♀ ad. Deelfontein, May 20–30, 1901.

c, d. ♂; *e.* ♀ ad. Deelfontein, March 5–10, 1902.

f, g. ♂ ♀ ad. Deelfontein, May 15–21, 1902.

[A common bird, found on all the farms, generally in pairs, and remaining all the year. It does a good deal of harm to the fig-crops. It breeds in a hollow tree, the hole being bored by the parent birds; there is no nest-lining.]

52. GEOCOLAPTES OLIVACEUS.

Geocolaptes olivaceus (Gm.); Sharpe, ed. Layard, pp. 187, 812 (1875–84); Hargitt, Cat. B. xviii. p. 9 (1890); Sharpe, Hand-l. B. ii. p. 200 (1900); Reichenow, Vög. Afrikas, ii. p. 166.

a. ♀ ad. Deelfontein, March 14, 1902. Iris pale reddish brown; feet dark green.

b. ♂; *c, d.* ♀ ad. Deelfontein, May 21–31, 1902.

e. ♂ ad. Deelfontein, July 26, 1902. Bill almost black; feet slightly green; iris brownish pink.

f. ♂ ad. Deelfontein, Aug. 6, 1902.

g. ♂ ; *h, i.* ♀ pull. Deelfontein, Sept. 23, 1902.

The young birds agree with the description given by Mr. Hargitt. They are very much like the adults, but duller red underneath, and have the fore-neck and chest mottled with ashy bars, and the light bands on the tail wider and more irregular.

[This Woodpecker was fairly common in the mountains, resembling our Green Woodpecker in most of its habits. It is very active in its ways, and is rather shy, with a cry like the alarm-note of the "Klip-bok." Two or three eggs were found in a hole made in a "sluit"-wall; there was no lining to the nest, which seemed to have been made by the birds themselves.]

[To be continued.]

II.—*The Birds of Nakl Island, on the Coast of Syria.*

By J. H. Stenhouse, M.B., R.N., H.M.S. 'Hotspur.'

Along the coast of Palestine and Syria outlying islands are few and far between, and suitable breeding-places for sea-birds are correspondingly scarce. However, at Tripoli in Syria, a line of coral-reefs runs out from the harbour to form the southern border of the bay, and, after being interrupted by a narrow deep-water channel, terminates, five miles from the town, in three small islands. The largest of these is Nakl, the other two are called Sanani and Ramkine, the last having a lighthouse on it. Of these three islands, Nakl (twenty feet high, circular in shape, and about five hundred yards across) and Sanani are composed of coral-rock and sand, and are covered with a fair growth of coarse grasses and *Salsola*, while Ramkine is forty feet high, rocky, and much more bare.

I have visited Nakl Island on two occasions: the first time on July 4th, 1893, and the second on June 20, 1895, both during stays of the Mediterranean Fleet at Tripoli. In the summer months the *imbat* or sea-breeze blows daily very strongly, and as the islands are then dead to windward of the anchorage, the journey out in a small sailing-boat is not altogether a pleasure. My first visit was, on account of this beat to windward, very short; but on the second occasion, when I was accompanied by Lieut. (now Commander) Farquhar and Lieut. Cochrane, of H.M.S. 'Hawke,' we made the voyage in a very crank native boat, and managed to spend the whole afternoon on this and the neighbouring island Sanani, and, though much annoyed by mosquitoes, we were amply rewarded by the results. I was in hopes, when recently serving on the Mediterranean Station, of having an opportunity of revisiting the islands during the breeding-season, but was disappointed. However, they are well worth exploration by any bird-lover who may pass that way, being not only what may prove to be the most easterly breeding-place of the rarest of our European Gulls, but also, probably, the northernmost locality for the Arabian representative of the Lesser Tern, as well as for another Red-Sea species, the Allied Tern.

The birds observed on these islands were:—

1. MOTACILLA ALBA.

A family-party of these Wagtails was found on an outlying piece of coral-rock on Nakl Island, and one which was shot proved to be an adult male in breeding-plumage. The young birds had evidently not long left the nest, which we found in a crevice of the coral. It contained an infertile egg of the brown variety, which measured ·83″ × ·61″. Some of these Wagtails were also seen on Sanani. I have no doubt that the abundance of mosquitoes is the chief inducement which keeps them on the islands.

2. SYLVIA RUEPPELLI.

A male of this species was picked up on my first visit to Nakl; it had probably died on migration north.

3. LARUS AUDOUINI.

On my first visit several Gulls were seen, though none were obtained, and their breeding-place was not discovered; but on the second occasion we found the nesting-place of a colony on the south-east part of Nakl Island, among a growth of *Salsola*. The season for eggs was over, but many young birds almost ready to fly were found hiding among the herbage, while others were on the wing. The old birds were very bold, and one was shot for identification. The nests were constructed of grasses and were placed among the *Salsola* branches. Two addled eggs were found, and one (which I still possess) measured 2·45″ × 1·82″, being practically the same size as the eggs of a clutch which I obtained on the Vacca Rock, Sardinia, two years ago. The colony appeared to consist of about fifteen pairs. Both here and on the Vacca Rock I noticed much whitewash round the nests of this bird; they are far dirtier in this respect than those of the Mediterranean Herring-Gull.

4. Larus cachinnans.

Larger Gulls, which were seen but not obtained, were probably of this species. Their nesting-place was not discovered, but they may breed on Ramkine, as several were observed flying over that island, which was not visited.

5. Sterna fluviatilis.

The Common Tern was found in abundance on both visits to Nakl. Very few of the nests had three eggs, many had two, and a considerable number only one; but it is possible that many of the eggs had been taken by the fishermen before our visits. Near the harbour, on the inner reef, a few rocks rise above the surface, and there this bird also breeds abundantly. On July 4th all the eggs were incubated; on June 20th the majority were fresh. Specimens of this bird were shot on both visits.

6. Sterna saundersi Hume (Cat. B. xxv. p. 120).

This Arabian representative of the Lesser Tern was exceedingly abundant on Nakl, and as the boat approached the island the birds rose in a cloud from the shore. On Sanani they were, if anything, more plentiful. We found numerous nests, two being the usual number of eggs in a clutch. The nests were on the sand above high-water mark, a very few being found away from the actual beach. The eggs averaged 1·23″ × ·9″ in size. On both visits specimens of the birds were shot for identification.

It would be interesting to know where the actual line of demarcation between the habitats of this species and *Sterna minuta* occurs. The nearest place to this where I have taken the Lesser Tern's eggs is in that paradise of waders and sea-birds between Salonica and the mouth of the Vardar River, and *there* the species is *Sterna minuta*. I believe that *S. minuta* also breeds in the salt-marshes to the west of Smyrna, but I have not visited that place.

7. STERNA MEDIA Horsf. (Cat. B. xxv. p. 86).

On my second visit two pairs of this Tern were seen and one individual was shot. Two nests were found, each with a single egg, quite fresh. Our attention was first drawn to the presence of this species by finding an egg, and then, on waiting, one of the birds, easily recognised as distinct by its yellow bill, came hovering over us.

8. ANAS BOSCAS.

A female of this Duck was shot on my first visit. It was flushed from amongst some thick grass.

III.—*Ornithological Journal of a Voyage round the World in the 'Valhalla' (November* 1902 *to August* 1903). By M. J. NICOLL, M.B.O.U.

(Plate I.)

IN October last I received a kind invitation from the Earl of Crawford, F.R.S., to accompany him, as Naturalist, during his proposed cruise to the South Pacific, through the Straits of Magellan, in his yacht 'Valhalla,' R.Y.S.

The 'Valhalla,' a full-rigged ship with auxiliary steam, 1700 tons displacement, left Cowes on November 19th, 1902. The last birds that I saw in English waters were a number of Black Scoters (*Œdemia nigra*), which we observed just before we reached the Needles. Early on Nov. 20th we passed Ushant and entered the Bay. It was very much warmer than when we left Cowes. About midday a Starling and a Greenfinch flew close past the ship, and a few Kittiwakes followed us. On Nov. 21st numbers of Shearwaters (probably *Puffinus gravis*) were seen. A small Skua followed us, as well as a Great Black-backed Gull. On Nov. 22nd I saw the first Storm-Petrels (*Procellaria pelagica*): at 2.30 P.M. Finistere was in sight: I then saw numbers of birds, Gannets, &c., and in the afternoon we passed close to a Little Auk (*Mergulus alle*) sitting on the water. At 1.30 P.M. on Nov. 23rd we passed the Balengas, a group of rocky islets off the coast of Portugal, where *Larus cachinnans* joined the Kittiwakes in our wake. Later in the day we passed numbers of Shags and Cormorants, and several large flocks of Little Auks. At 8.20 P.M. we dropped anchor off the mouth of the Tagus, and at 8 o'clock the next morning steamed up the Tagus to Lisbon. We landed shortly afterwards and visited the market. There were numbers of sardines on sale and I saw a Woodcock there, but little else of interest. During a visit to the Botanical Gardens I saw Chaffinches, Redbreasts, Willow-Wrens, and Chiffchaffs. On Nov. 25th we took the train to Cintra. I saw there *Alauda arvensis*, *Certhia familiaris*, *Sylvia atricapilla*, and *Anthus pratensis*.

We left Lisbon for Madeira on Nov. 26th, passing through numbers of Little Auks and Mediterranean Shearwaters (*Puffinus kuhli*). At 4 P.M. on Nov. 28th we passed Porto Santo, one of the Madeiran Islands, and soon afterwards I saw two small Petrels, possibly *Oceanites castro*. That night we lay-to off Madeira. The next morning I observed two Great Skuas (*Megalestris catarrhactes*) and *Sterna minuta*. This is rather far south for the Great Skua, even in winter, I believe. On shore I saw numbers of Blackcaps (*Sylvia atricapilla*) and heard several singing. Grey Wagtails (*Motacilla melanope*) were abundant, and I saw several perching on the house-tops. I also observed two examples of *Motacilla alba* near the shore. At 2000 ft. up the hill I saw numbers of Wild Canaries (*Serinus canariensis*) sitting in the trees. On Nov. 30th we left Madeira for Las Palmas, Gran Canaria. The next day, at 8 A.M., I got a mere glimpse of the Peak of Teneriffe. At 6.30 P.M. we anchored in Las Palmas Harbour. As we sailed the next morning I had not much time for collecting. We drove to Santa Brigada, 1400 ft., and on the way I saw the Canarian Kestrel, *Anthus bertheloti*, *Sylvia cinerea*, and a few Chiffchaffs (probably *Phylloscopus fortunatus*). At an elevation of 1400 ft. I saw some Grey Wagtails. In the evening we visited the Museum at Las Palmas, where there were a few birds. I shot the following birds at Gran Canaria:—

1. PARUS TENERIFFÆ (Less.).

Parus teneriffæ Gadow, Cat. B. viii. p. 14.

♂ ad. Dec. 2nd. Santa Brigada, 1400 ft.

This was the only example of the species seen. I shot it in a clump of elder-bushes close to the road; its note resembled that of our Great Tit.

2. ANTHUS BERTHELOTI (Bolle).

Anthus bertheloti Sharpe, Cat. B. x. p. 591.

♂ ♀. Dec. 3rd.

This Pipit is abundant in Gran Canaria, frequenting the bare stony slopes covered with tufts of coarse herbage. The note reminded me of that of the Yellow Wagtail. The gizzard contained small seeds and grit.

Examples of this species from the Canary Islands differ from those from Madeira in their smaller size, especially as regards the bill, and much paler coloration, being white below and less spotted on the breast.

On Dec. 3rd we left Las Palmas for St. Vincent, Cape Verde Islands. On Dec. 5th I saw two large Petrels, which were probably *Bulweria columbina*. The next day we entered the Tropics. In the morning an adult Kittiwake (*Rissa tridactyla*) followed us for some time. On Dec. 7th I saw a number of small Petrels, perhaps *Oceanites castro*. On Dec. 8th I noticed the first flying-fish. On Dec. 10th we sighted San Antonio, one of the Cape Verde Islands, and soon after I saw a small

Shearwater, *Puffinus assimilis* (?). That afternoon we arrived at St. Vincent and spent a day and a half there. Egyptian Vultures were abundant, and I saw several Brown Ravens (*Corvus umbrinus*). I shot examples of the following species at St. Vincent:—

1. Sylvia conspicillata Marm.

Sylvia conspicillata Seebohm, Cat. B. v. p. 22.

♂ ♀. Iris light brown.

This Warbler is fairly numerous in the tamarisk-bushes close to the sea at St. Vincent. Its call-note resembles that of a Wren.

2. Passer jagoensis Gould.

Passer jagoensis Sharpe, Cat. B. xii. p. 323.

Two young males. Iris dark brown.

These two Sparrows were killed by a native boy with a stone. I bought them from him, but I did not see any examples alive.

We left St. Vincent on Dec. 12th, and steamed straight to St. Paul's Rocks, which lie in mid-Atlantic, just under the Equator.

On Dec. 15th (lat. 6° 9′ 54″ N., long. 28° 22′ 54″ W.) I saw a very small Shearwater (*Puffinus assimilis*).

On Dec. 17th, at 1.30 p.m., we sighted St. Paul's Rocks. Several Boobies (*Sula leucogastra*) came off to have a look at us. There was a heavy swell, and the surf was beating over the reefs, but we landed without much difficulty at 3.30. St. Paul's Rocks are simply a cluster of islets some half a mile in circumference: the highest is about 64 ft. in elevation. The largest peak, "Booby Hill," is snow-white from the birds' droppings, which have formed in places a hard enamel over the surface of the rocks. The islets swarm with evil-looking Crabs (*Grapsus strigosus*). Three species of birds inhabit the locality, and I met with a migrant, probably a straggler, which I shall mention later. I obtained a small beetle, some small crickets, and a moth. The water round the rocks swarms with sharks and many other fishes. Twenty of the former were caught from the ship. I collected examples of the following species of birds here:—

1. Strepsilas interpres (Linn.).

Arenaria interpres Sharpe, Cat. B. xxiv. p. 92.

I saw a Turnstone on both the days that we were on St. Paul's Rocks; the birds were very wild, and I could not get a shot at them.

2. Anous stolidus (Linn.).

Anous stolidus Saunders, Cat. B. xxv. p. 136.

Three adults, two young, embryo from the egg, and egg.

The Common Noddy was abundant on the rocks. I found a considerable colony breeding at the base of Booby Hill. The noise which they made reminded me of a large rookery in the breeding-season. Their one egg was laid on the bare rock. Most of the eggs were hard-set. The birds appear to breed here all the year round, as Fitzroy visited these rocks on Feb. 16th, Ross on May 29th, the 'Challenger' on August 29th, and we were there on Dec. 17th, while on all these occasions young and eggs of the Noddy were found.

3. Micranous leucocapillus (Gould).

Micranous leucocapillus Saunders, Cat. B. xxv. p. 145.

Two pairs. Bill, tarsi, and toes black.

The little Black-cheeked Noddy was much scarcer on the rocks than the Common Noddy, and I found only one small colony of its nests. They were composed of small heaps of weed, cemented to a projecting ledge of rock with the droppings of the birds, and had a curious bracket-like appearance. Only three contained eggs. These peculiar nests seem to belong exclusively to this species, as I did not find any of them occupied by the larger *A. stolidus*.

This little Noddy was very wild, and I had to shoot those I wanted for specimens; the Common Noddy was easily caught by hand.

4. **Sula leucogastra** (Bodd.).

Sula sula Grant, Cat. B. xxvi. p. 436.

One adult and two young. Bill yellowish; tarsi and feet pale green (adult).

This Booby was certainly the most abundant bird on the islands. Its two eggs were laid on the bare rock, and were in every case surrounded by dead and decomposing flying-fishes. On Booby Hill it was impossible to walk without touching the birds. The half-grown young were far more spiteful than the adults and several of them chased us down the hill, biting at our legs.

Having stayed at St. Paul's Rocks for nearly two days we left on Dec. 18th. On the 19th we went through the ceremony of "Crossing the Line." The next day we reached Fernando Noronha, about 100 miles south of the Equator. This island, which is some 200 miles from the nearest point of South America, is a Brazilian penal settlement; there are about 250 convicts there (all murderers), but prisoners are no longer sent to the island. There was a heavy surf breaking on the shore, but we landed without much difficulty and climbed to land over the rocks. Fortunately there were two English telegraph-operators on the island, and through them we were able to obtain permission to collect. The Governor, who could only speak Portuguese, was most obliging, and invited me into his garden to shoot birds. The next morning we rode across the island on ponies. The convicts have to work only a few hours a day, and most of them have houses of their own to live in. These houses are scattered all over the island, but every evening a bugle is blown and the prisoners have to assemble at a call-over.

The most abundant bird on the island is a Dove. Tropic-birds and Frigate-birds are also fairly plentiful; the latter were breeding high up on a neighbouring islet, St. Michael's Mount. I also saw a pair of *Gygis candida* flying over the island. There are two species of lizards on the island, one of which is peculiar to it, and the other Brazilian.

A crab (*Grapsus strigosus*) is common on the rocks. On the second day of our visit I saw *Sula leucogastra*, *Anous stolidus*, and *Micranous melanogenys*. We left Fernando Noronha on Dec. 22nd.

There are no indigenous mammals at Fernando Noronha, but rats (*Mus rattus*) have been imported, and the common mouse has also been introduced. Two of the latter which I shot were of a rufous fawn-colour.

Specimens of the following birds were obtained:—

1. Vireo gracilirostris.

Vireo gracilirostris Sharpe, Journ. Linn. Soc., Zool. xx. p. 178 (1890).

A male and four females. Bill dark horn-brown: tarsi and toes lead-blue, with a greenish tinge.

This little bird, somewhat resembling a Reed-Warbler in its actions, is peculiar to the island. The types, which are in the British Museum, were obtained by Dr. H. N. Ridley during his visit in 1887.

I found this species fairly abundant in the small fig-trees with which parts of the island are covered. I also obtained specimens in the Governor's garden. It has a loud call-note, resembling the "*chizzick*" of a Wagtail. It is an active little bird and continually on the move amongst the leaves, now and then darting out after an insect.

2. Elainea ridleyana.

Elainea ridleyana Sharpe, P. Z. S. 1888, p. 107: id. Cat. B. xiv. p. 139.

♀. Iris dark brown; bill dark brown; tarsi and toes black.

This Tyrant-bird was discovered by Dr. Ridley in 1887 and is peculiar to the island. I only met with a pair, which were in the Governor's garden. I shot both, but lost one in the top of a palm-tree. I heard no note uttered by this bird. It raises the feathers on the top of its head, which form a small crest. I was told it was not uncommon in some parts.

3. ZENAIDA AURICULATA (Temm.).

Zenaida auriculata Salvad. Cat. B. xxi. p. 384.

♂ ad. This small Dove is the most abundant bird on the island. It is very difficult to find it when shot, owing to the dense undergrowth. I saw several large flocks sitting on the branches of a species of fig-tree which grows all over the island. Its note is a loud rattling "*coo.*"

4. STREPSILAS INTERPRES (Linn.).

Arenaria interpres Sharpe, Cat. B. xxiv. p. 92.

I shot two immature Turnstones out of a flock of about thirty, which was apparently entirely composed of young birds.

5. STERNA FULIGINOSA (Gm.).

Sterna fuliginosa Saunders, Cat. B. xxv. p. 106.

This Tern was abundant and breeding on the island. I was too late to find eggs.

6. PHAËTHON LEPTURUS (Lacép. & Daudin).

Phaëthon lepturus Grant, Cat. B. xxvi. p. 453.

♂ ♀. Bill yellowish green; tail-streamers washed with palest pink.

I saw several of these birds sailing up and down past the Settlement on the island. Lord Crawford shot the two specimens the day after we arrived.

On Dec. 26th we anchored off Bahia, and soon afterwards went ashore. We were delayed there till Jan. 5th, 1903. The British Consul invited me to collect in his garden, in which I obtained several birds, butterflies, &c. We made five or six excursions to the Island of Itaparica, about ten miles across the bay from Bahia. We used to go in the steam-launch as close to the shore as we could, and then land in a small Berthon boat. This island was swarming with birds and butterflies. It was covered in places with thick tropical jungle, with open glades between. I heard many song-birds, and a Thrush rivalled our Blackbird in the richness of its notes.

There were very few sea-birds at and near Bahia during our stay; I only saw *Sula leucogastra.* I obtained examples of the following species at Bahia and Itaparica:—

1. Asturina nattereri *Scl. & Salv.*
2. Troglodytes musculus *Naum.*
3. Progne tapera (*Linn.*).
4. Polioptila leucogastra *Neuwied.*
5. Dacnis cayana (*Linn.*).
6. Euphonia violacea (*Linn.*).
7. Calliste flava (*Gm.*).
8. Tanagra sayaca *Linn.*
9. Rhamphocœlus brasilius (*Linn.*).
10. Tachyphonus melaleucus (*Sparrm.*).
11. Spermophila cærulescens (*Bonn. & Vieill.*).
12. Volatinia jacarini (*Linn.*).
13. Fluvicola climacura (*Vieill.*).
14. Machetornis rixosa (*Vieill.*).
15. Todirostrum cinereum (*Linn.*).
16. Elainea pagana (*Licht.*).
17. Myiozetes similis (*Spix*).
18. Pitangus sulphuratus (*Linn.*).
19. Myiarchus ferox (*Gm.*).
20. Tyrannus melancholicus *Vieill.*
21. Synallaxis cinnamomea (*Gm.*).
22. Chrysolampis moschitus (*Linn.*).
23. Agyrtria leucogastra (*Gm.*).
24. Eupetomena macrura (*Gm.*).
25. Chrysoptilus chrysomelas (*Malh.*).
26. Ceophlœus lineatus (*Linn.*).
27. Chelidoptera brasiliensis *Scl.*
28. Crotophaga ani *Linn.*
29. Guira piririgua (*Buff.*).
30. Scardafella squamosa (*Temm. & Knip*).
31. Chamæpelia minuta (*Linn.*).
32. Chamæpelia talpacoti (*Temm. & Knip*).
33. Ægialitis collaris (*Vieill.*).

The following notes refer to some of the species mentioned in this list:—

Calliste flava (Gm.).—Common at Bahia and Itaparica. Both specimens obtained were males.

Fluvicola climacura (Vieill.).—This bird is common at Bahia, especially in the town, where it may be seen walking about in the streets. It is very tame.

Todirostrum cinereum (Linn.).—This little bird is fairly common near Bahia, where I found a pair building a very large nest at the top of a tall tree. I only once saw a bird of this species at Itaparica.

Chrysolampis moschitus (Linn.).—One of the commonest Humming-birds on Itaparica. The British Consul told me that he once purchased a pure white individual of this species from an old native bird-stuffer in Bahia.

Agyrtria leucogastra (Gm.).—I saw a few examples of this species on Itaparica; their flight is very rapid.

Eupetomena macrura (Gm.).—This Humming-bird is fairly abundant on Itaparica; it utters a shrill chirp while feeding.

Chelidoptera brasiliensis Scl.—I saw two individuals only of this species sitting on the top of a dead tree.

Crotophaga ani Linn.—This bird is very common at Bahia and Itaparica, and is usually seen in parties of about a dozen.

From Bahia we steamed to Monte Video, not putting in at Rio Janeiro, as we heard that the plague was very bad there and we did not want to be quarantined at our next port. On Jan. 9th (lat. 24° 23′ 39″ S., long. 40° 1′ W.) I saw several large Petrels (*Œstrelata arminjoniana,* I believe) which followed us for three days. They were flying quite close to the ship, but unfortunately it was too rough to lower a boat. Amongst these birds I saw two or three of the same size, but nearly black—these may have been *Œ. trinitatis*.

On Jan. 12th (lat. 33° 29′ 36″ S., long. 50° 3′ 47″ W.) I saw two large Albatrosses (*Diomedea exulans*); these were the first met with. The next day, about twelve hours before we got to Monte Video, I saw a Giant Petrel (*Ossifraga gigantea*) and several Black-backed Gulls (*Larus dominicanus*).

On Jan. 14th we anchored at Monte Video. I was not able to collect birds there, but I saw examples of the following species in the harbour or flying about:—*Phalacrocorax vigua, Cygnus nigricollis,* and *Larus dominicanus.* I made an excursion from Monte Video to Las Piedros, two hours by train. I saw there a large Sandpiper (probably *Totanus solitarius*) sitting by a small pool. *Passer domesticus* has been introduced and is common in the streets of Monte Video. We left on Jan. 20th for the Magellan Straits, having first taken a pilot on board. On Jan. 23rd (lat. 39° 7′ 40″ S., long. 57° 30′ 24″ W.) there were several Albatrosses and Petrels about.

On Jan. 27th, a few hours before we arrived at the entrance of the Magellan Straits, I saw numbers of Diving Petrels (*Pelecanoides urinatrix*) and a Penguin.

On Jan. 28th, as there was a gale blowing against us, we had to anchor all day.

On Jan. 29th we went through the first narrows and passed Elizabeth Island, and then through the second narrows, where we passed hundreds of Terns (*Sterna hirundinacea*), Penguins, Albatrosses (*Diomedea melanophrys*), and Diving Petrels. There was one Giant Petrel. On the shore we could see many Huanacos walking about. In the afternoon we arrived at Punta Arenas, the only town in the Straits. Here I found that shooting birds was forbidden; however I managed to get permission from the Governor to collect a few. The hills behind the town are covered with forests of beech trees (*Fagus antarctica*). We left Punta Arenas on Feb. 3rd. I obtained examples of the following birds there:—

1. Tachycineta meyeni (Bp.).

Tachycineta meyeni Sharpe, Cat. B. x. p. 116.

♀. Iris dark brown; bill black; tarsi and toes dark brownish.

I saw some of these Martins flying round the houses at Punta Arenas. The tarsi and toes are not feathered as in our House-Martin, otherwise they might easily be mistaken for that species. The cry is very similar.

2. Zonotrichia canicapilla Gould.

Zonotrichia canicapilla Sharpe, Cat. B. xii. p. 609.

♂ ♀. Iris dark brown; bill and feet brownish flesh-coloured.

This Finch is very common at Punta Arenas, where I found it amongst the barberry-bushes. Its call-note resembled that of our Yellow-hammer. The adult obtained on Jan. 30th was in full moult.

3. Centrites niger (Bodd.).

Centrites niger Sclater, Cat. B. xiv. p. 61.

♂. Iris dark brown; bill, tarsi, and toes black.

This little bird was abundant at Punta Arenas, but during our short stay there I saw only two adults. I met with it both along the shore and a short distance inland, where I found it perching on the barberry-bushes. It was not easy to approach and was very restless in its movements.

4. Elainea albiceps (d'Orb. & Lafr.).

Elainea albiceps Sclater, Cat. B. xiv. p. 141.

♀ juv. Punta Arenas.

♀. Gray's Harbour, Smythe's Channel.

The immature specimen shot at Punta Arenas was met with in the barberry-bushes close to the shore. The adult had a conspicuous white crest. I procured it at Gray's Harbour, Smythe's Channel, in an almost impenetrable thicket. Its note somewhat resembled the pipe of a Bullfinch.

5. Thinocorus rumicivorus (Eschscholtz).

Thinocorus rumicivorus Sharpe, Cat. B. xxiv. p. 719.

♂ juv. Iris dark brown; bill yellowish; tarsi and toes yellow.

I shot this curious little bird close to the town of Punta Arenas. I put it up from a rubbish-heap of tin cans, kettles, &c., close to the sea. A few days afterwards I saw a small flock further along the shore. They were very wild. The flight of this species resembles that of a Dunlin. I did not hear it utter any cry.

6. Sterna hirundinacea (Less.).

Sterna hirundinacea Saunders, Cat. B. xxv. p. 52.

This Tern was abundant in the Straits of Magellan, especially off Dungeness Point, at the eastern extremity, where I saw hundreds as we steamed past. I shot two adult examples from the beach near Punta Arenas, where I found a fair number of individuals. I brought them within shot by knocking two large flints together—a very good way to attract Terns.

7. Chloëphaga magellanica (Gm.).

Chloëphaga magellanica Salvadori, Cat. B. xxvii. p. 132.

The Governor of the Straits of Magellan, Capt. Gomez, gave us two goslings of this species alive; but when we entered a warmer climate they both died, just as they were getting their feathers.

After leaving Punta Arenas, we had to anchor every night in the Straits, where there are numerous natural harbours.

When we had passed the Straits we proceeded up Smythe's Channel, eventually coming out into the Gulf of Peñas. I saw numbers of birds in the Straits of Magellan, but in Smythe's Channel there were very few except Cormorants. Land-birds were very scarce, although the country is perfectly suitable for them.

Going through Smythe's Channel we had several good views of glaciers, and one day we were steaming through broken ice for several hours. The different anchorages were very much alike as regards scenery. The shore rose almost straight out of the water, forming very high hills of several thousands of feet, behind which in many places were higher snow-capped mountains. All these hills are densely covered with beech trees (*Fagus antarctica*). There are two species of beech in the west of Magellan Straits and Smythe's Channel—the one just mentioned, which is deciduous, and the "evergreen beech" (*Fagus betuloides*), which never loses its leaves. The forests on the hills are practically untrodden, and it is impossible to get through them in most places without cutting a path. The ground amongst the trees is strewed with hundreds of years' accumulation of rotting timber, which makes climbing the hills very difficult, as the explorer often slips into decayed wood above his waist. The water in these anchorages looks very black, and is studded in many places with small rocky islands, covered with shrubs and flowers. Almost the only bird-life to be seen consists of flocks of Cormorants with a few Gulls and Steamer-Ducks. We anchored every evening about 4 o'clock and had boats down at once. We used to row round the harbours and land on some of the islets in order to get what specimens we could.

The following is a list of birds obtained on the Patagonian coast between Punta Arenas and the Gulf of Peñas:—

1. IBYCTER CHIMANGO (Vieill.).

Ibycter chimango Sharpe, Cat. B. i. p. 41.

♀. Molineux Sound, Smythe's Channel. Iris black; bill, tarsi, and toes greenish yellow.

I found this species fairly abundant in Molineux Sound, where I put up several individuals from the water's edge. I shot one which was sitting cawing in a dead tree.

2. Turdus magellanicus (King).

Turdus magellanicus Seebohm, Cat. B. v. p. 223.

This handsome Thrush was not common when we were in the Straits. I met with only three individuals, and saw none until we got to the extreme west of the Straits. It utters a low plaintive whistle. The young bird in first plumage is not unlike our Blackbird (*Turdus merula*) at that stage, but has a dark, almost black, crown.

3. Phrygilus gayi (Eydoux et Gerv.).

Phrygilus gayi Sharpe, Cat. B. xii. p. 781.

Gray's Harbour, Smythe's Channel. Sex uncertain. Iris black; bill lead-coloured; tarsi and toes brown.

The example obtained was the only one which I saw.

4. Cinclodes patagonicus (Gm.).

Cinclodes patagonicus Sclater, Cat. B. xv. p. 22.

Puerto Bueno anchorage, Smythe's Channel. Sex uncertain. Iris black; bill black; tarsi and toes dark brown.

This little bird was fairly numerous in the anchorages, where it was observed climbing over the rocks and uttering a shrill cheeping note. I saw one several times on board the ship examining the rigging. One bird tried to settle on the boat when we were out shooting.

5. Oxyurus spinicauda (Gm.).

Oxyurus spinicauda Sclater, Cat. B. xv. p. 30.

♂. Iris black. Churruca Bay, Feb. 4th.

In the extreme west of the Straits of Magellan this species is almost the only land-bird to be seen. While walking through the dripping untrodden forests I several times had an individual of this species following me the whole time, uttering its monotonous shrill chatter. It is curious that, although possessing stiff-pointed rectrices, it never seems to use its tail like our Common Creeper (*Certhia*), but hops about the bushes somewhat as a Tit does; at least that is my experience, and I have often watched it for a considerable time.

6. SYLVIORTHORHYNCHUS DESMURSI (Gay).

Sylviorthorhynchus desmursi Sclater, Cat. B. xv. p. 31.

I saw and shot two examples of this curious Wren-like bird at Gray's Harbour. They were in the most dense undergrowth, and were so tame that I could not get more than four or five yards from them: the first I blew to pieces and the other I lost in the undergrowth. The enormously long tail is held straight out behind, *not* cocked up. The cry is much like the call-note of our Wren.

7. CERYLE STELLATA (Meyen).

Ceryle stellata Sharpe, Cat. B. xvii. p. 123.

One male and two females, Feb. 5th, 8th, and 9th. Smythe's Channel. Iris black; bill black; tarsi and toes brown in front, reddish behind.

I saw several of these fine Kingfishers in Smythe's Channel. They were usually seen sitting on an overhanging tree in some quiet backwater. Their cry, when alarmed, was a loud laugh.

8. RALLUS VIGILANTIS (Sharpe).

Limnopardalus vigilantis Sharpe, Cat. B. xxiii. p. 31.

♂ ad. Iris red; bill green, blue at base; tarsi and toes dull red. Puerto Bueno anchorage.

I met with only a single example of this curious Rail. It ran out of some rushes on a small island. I walked all through the herbage, but did not find another.

9. EUDROMIAS MODESTA (Licht.).

Zonibyx modesta Sharpe, Cat. B. xxiv. p. 238.

Two young males. Port Gallant, Feb. 3rd, 1903. Iris black.

I saw a small flock of these Dotterels at Port Gallant anchorage. All of them appeared to be immature. The two examples that I obtained had the nape of the neck covered with down. Their note was a shrill whistle.

10. LARUS DOMINICANUS Licht.

Larus dominicanus Saunders, Cat. B. xxv. p. 245.

Iris pale yellow; bill yellow, with red spot; eyelid red; tarsi and feet slate-grey, in the male washed with yellow.

This Gull was abundant in the Straits of Magellan and Smythe's Channel. The males appeared to have larger bills than the females.

11. **Megalestris chilensis** (Saunders).

Megalestris chilensis Saunders, Cat. B. xxv. p. 318.

♀. Port Dixon.

♀. Gray's Harbour.

This fine Skua was not uncommon in the Straits of Magellan and Smythe's Channel. Several times four or five birds followed us into our anchorage. They were very wary, and I found that the best way to procure them was to tie a dead Cormorant to a long string and let it drift away from the ship. A Skua would soon discover it and come down to tear it to pieces; when thus engaged it might be approached without difficulty.

12. **Pelecanoides urinatrix** (Gm.).

Pelecanoides urinatrix Salvin, Cat. B. xxv. p. 437.

Two males. Feb. 7th, Molineux Sound. Iris black; bill black; tarsi and toes blue-grey, with black line down back of tarsus, webs black.

I first saw these curious little Petrels the day before we reached the Straits of Magellan. I watched them all the afternoon rising under our bows, flying for a short distance with a feeble fluttering flight, and then diving again suddenly into the water. They were abundant all through the Straits and Smythe's Channel, but were not easy to shoot, as they dived at the flash of the gun. The stomach of this species is very large and soft, and is apparently little more than an enlargement of the proventriculus, having no visible muscular system: those examined were filled with fishes.

13. **Phalacrocorax vigua** (Vieill.).

Phalacrocorax vigua Grant, Cat. B. xxvi. p. 378.

Two males. Gray's Harbour, Feb. 10th. Iris green; bill blackish above, light brown below; tarsi and feet black.

I saw a Cormorant of this species flying high overhead in Port Eden, but did not meet with others until just before we reached Gray's Harbour, our last anchorage in the Channel. On arriving there I saw numbers and secured two males.

14. Phalacrocorax magellanicus (Gm.).

Phalacrocorax magellanicus Grant, Cat. B. xxvi. p. 388.

♀. Churruca Bay, Feb. 4th.

♂, ♀ juv. Port Dixon, Feb. 5th.

Iris red; bare skin of face red.

One of the adults had a white spot on the ear-coverts and on the upper throat, being in transition from summer to winter plumage. The immature female had the abdomen thickly marked with very dark brown.

This species is particularly common in the Straits of Magellan. The breeding-season was over when we were there. During the first week in February I saw numbers in all the anchorages visited, feeding amongst the seaweed.

15. Phalacrocorax atriceps (King).

Phalacrocorax atriceps Grant, Cat. B. xxvi. p. 390.

♂. Port Dixon.

♂. Molineux Sound.

Iris green; eyelid blue; face and nasal caruncles yellowish green.

This fine Cormorant is the most abundant of the genus in Magellan Straits and Smythe's Channel. I saw numbers at every anchorage. As a rule, the birds fly together in flocks.

16. Podicipes americanus (Garnot).

Podicipes americanus Grant, Cat. B. xxvi. p. 524.

♀. Gray's Harbour, Smythe's Channel, Feb. 9th. Iris red; bill and feet black.

This example, the only one seen, was shot by Lord Crawford in a narrow backwater in Gray's Harbour.

17. Spheniscus magellanicus (Forster).

Spheniscus magellanicus Grant, Cat. B. xxvi. p. 651.

♀ juv. Port Dixon.

I saw the first Penguin, an individual of this species, just before we reached the Straits of Magellan. I noted some more in the Straits towards the western end, but very few in Smythe's Channel. Nearly all of them appeared to be young birds.

18. Chloëphaga poliocephala (Gray).

Chloëphaga poliocephala Salvad. Cat. B. xxvii. p. 137.

♀. Port Dixon. Iris black; bill black; tarsi and toes black in front, orange behind; webs black.

This beautiful Goose was not uncommon at the western extremity of the Straits of Magellan and in Smythe's Channel. It was not easy to approach.

19. Tachyeres cinereus (Gm.).

Tachyeres cinereus Salvad. Cat. B. xxvii. p. 373.

♂ ♀ ad., ♀ juv. Smythe's Channel.

(Ad.) Iris black; bill orange, nail black; tarsi and toes orange; webs black: weight 9½–10 lbs.

(Juv.) Iris black; bill and feet very dark brown: weight 5 lbs.

I certainly recognised but one species of Steamer-Duck, and out of a good many dozens met with never saw one fly. In most accounts of this bird it is stated that it rows itself along through the water with its little wings at an incredible rate. It certainly goes very fast, but practically it runs on the water flapping its wings clear of it. It is very wild and its skin is very tough. I found BB's were the only shot that had any effect, and then only at about fifteen yards distance. This Duck dives well and remains under water for a considerable time. The immature example obtained was shot by Lord Crawford with a rifle from the deck. Though nearly fully feathered on the back it had no feathers at all on the wings. I saw several examples in down, but was not able to secure one. The young travel through the water nearly as fast as the adults, in which the muscles of the legs are enormously developed. The call-note of this species, which I only heard uttered when there were young near, was a croaking quack. The pilot who took us through the Straits of Magellan told me that there are not so many of these Ducks there as formerly. I saw only two in the Straits of Magellan, and did not obtain a specimen until we got into Smythe's Channel. The gizzards of those shot contained broken mussel-shells (*Mytilus magellanicus*).

Early on February 10th we left Gray's Harbour, our last anchorage, and entered the Gulf of Peñas. Towards evening it began to get very rough, and the next day it was so boisterous that I could not manage to skin birds at all. On February 12th (lat. 41° 42′ S., long. 75° 17′ W.) many Albatrosses (*Diomedea exulans*) followed us. On Feb. 14th we arrived at Valparaiso.

As we entered the bay I saw a great many birds—Petrels, Gulls, and Pelicans, and was surprised to observe numbers of Grey Phalaropes. Every evening I went into the bay in the launch to shoot. I found the sea-birds very wild. I went for a walk on shore once or twice, but birds were scarce and I only obtained specimens of two common species —*Zonotrichia pileata* and *Anæretes parulus.*

The following is a list of the ten species of sea-birds procured in the Bay of Valparaiso:—

1. PHALAROPUS FULICARIUS (Linn.).

Crymophilus fulicarius Sharpe, Cat. B. xxiv. p. 693.

A female in full winter-plumage was obtained on Feb. 18th.

The Grey Phalarope was fairly abundant in Valparaiso Bay; it was seen every day that we were there in small flocks sitting on the water, but was not easy to approach.

2. LARUS FRANKLINI Swains. & Richards.

Larus franklini Saunders, Cat. B. xxv. p. 191.

Three adult males. Iris black; bill dark red; tarsi and toes liver-coloured.

This Gull was very abundant in Valparaiso Bay, especially amongst the shipping. It appeared to be acquiring the breeding-plumage—the hind part of the head being black, while the forehead and chin were mottled with white. The beautiful rosy pink of the breast and under-wing soon fades after the bird is skinned, even though not exposed to the light.

3. Larus modestus Tschudi.

Larus modestus Saunders, Cat. B. xxv. p. 223.

♂ imm., Feb. 17th. Iris hazel; bill black; tarsi and toes black, with olive-brown wash.

I saw several of these graceful little Gulls in Valparaiso Bay, but, like all the birds there, they were very wild.

4. Stercorarius crepidatus (Gm.).

Stercorarius crepidatus Saunders, Cat. B. xxv. p. 327.

♂. Iris black; bill black; tarsi bluish grey; feet black.

I saw numbers of small Skuas in the bay at Valparaiso of both the light and dark phases. I thought at the time that they might be *S. pomatorhinus*. I secured one example only, as they were extremely wary. My specimen is almost wholly white below, with a quantity of white on the head; but, on comparing it with the large series in the British Museum, I find that it must be *S. crepidatus*, although it is far whiter than any other specimen in the series. This locality is much further south on the Pacific coast of America than any at which this species has been obtained before.

5. Puffinus creatopus (Coues).

Puffinus creatopus Salv. Cat. B. xxv. p. 376.

♀. Iris hazel; bill yellowish flesh-coloured, tip black; tarsi and toes flesh-coloured, outer toe darker.

This Shearwater was not uncommon in Valparaiso Bay, but was very shy and very hard to shoot. It used to come closer in towards evening. I rarely saw it sitting on the water.

6. Puffinus griseus (Gm.).

Puffinus griseus Salvin, Cat. B. xxv. p. 386.

♂ ♀. Iris black; tarsi and toes slate-coloured in front, black behind; webs black.

This Shearwater was very abundant off Valparaiso when we were there, though difficult to approach. Flocks of several hundreds used to come into the bay every evening and sit on the water. Before dusk I used to see them sweeping along the coast in a continuous stream over the sea outside the bay.

7. OSSIFRAGA GIGANTEA (Gm.).

Ossifraga gigantea Salv. Cat. B. xxv. p. 422.

I shot a female of the Giant Petrel from the steam-launch while it was feeding on a dead dog. Skinning this bird was not pleasant; the ordinary Petrel-smell coupled with a flavour of dead dog lasted for some hours. I saw no other examples of it.

8. PELECANOIDES GARNOTI (Less.).

Pelecanoides garnoti Salv. Cat. B. xxv. p. 439.

♂, ♀; ♀ juv. Iris black; bill black; tarsi and toes blue-grey in front, black behind; webs and outer toe black.

This Diving Petrel is common in Valparaiso Bay, and is much easier to shoot than *P. urinatrix*. It is readily distinguished from the latter by its large size, greyer flanks and under wing-coverts, and by having the outer toe black. In flight and habits it resembles *P. urinatrix*.

9. DIOMEDEA MELANOPHRYS Temm.

Diomedea melanophrys Salv. Cat. B. xxv. p. 447.

♂. Iris hazel; bill black; tarsi and toes black, with olive-brown wash.

I saw a Black-browed Albatross several times close to the shore at Valparaiso. The gizzard of the specimen that I shot contained a fairly large fish.

10. PELECANUS THAGUS (Molina).

Pelecanus thagus Grant, Cat. B. xxvi. p. 480.

♀. Bill yellow, with red tip; pouch yellow; tarsi and toes pale yellowish.

This fine Pelican is fairly abundant off Valparaiso, especially round the shipping, but all the birds were apparently immature. I spent some time watching them fishing; they fly round in circles, and suddenly drop head first into the water. I never saw one miss its fish. Several times I observed a Gull (*Larus dominicanus*) settle on a Pelican's head and try to get a fish out of its mouth.

On Feb. 21st I called at the "Museo del Historia Natural" at Valparaiso, and made the acquaintance of Prof. Carlos E. Porter, the Director. He took no special interest in birds, but shewed us the collection, which consisted of a series of mounted specimens in large glass cases. They were mostly Chilian, but in many cases were not labelled.

We left Valparaiso on Feb. 24th for Easter Island, which is about 2000 miles west of Chile. We sailed the whole way and sighted Easter Island on the fourteenth day after leaving Valparaiso.

On Feb. 28th (lat. 31° 15′ 10″ S., long. 87° 40′ W.) an example of *Procelsterna cinerea* followed us for some time, and the next day I saw three more of the same species. I noticed a few Petrels for about a week after leaving Valparaiso, but afterwards we sailed for days without seeing a bird of any sort. When we reached Easter Island I observed many Noddies, Sooty Terns, Gannets (*Sula piscator*), and Frigate-birds. There is said to be one indigenous land-bird on Easter Island, but I did not see it. It was described to me as being something like a Robin. I only had about six hours ashore. Easter Island is now used by a Chilian Company as a sheep- and cattle-run, and is covered entirely with grass; there are no trees, and I did not see any shrubs. I examined some of the huge stone images, for which the island is famous, and procured from the natives a large number of bones of the original inhabitants—presumably the people who carved these huge images. Easter Island is rightly called the "Mystery of the Pacific," for, besides the images, there are several caves in the crater of the volcano (called *Rana Kao*), which have wonderful carvings of the rising sun, mermaids, &c. on their walls. But I believe that if a proper archæological expedition were made to the island a good deal of light might be thrown on the subject, as there must be a great many more relics to be found. The human bones are dug out from the piles of rocks on which the images are placed, and this leads to the supposition that the latter were erected as a monument over the bodies of great men.

I only obtained two species of birds on Easter Island, namely, a Tinamou (*Nothoprocta perdicaria*), introduced from Chile and breeding on the island, and the White Tern (*Gygis candida*), which was apparently nesting on the ledges inside the crater of the volcano. As regards mammals, rats have been imported, and I was told that there are some very large wild cats on the island, no doubt descended from the domestic animal.

We left Easter Island on March 13th for Pitcairn Island. On the way we saw very few birds. When in lat. 27° 27′ 2″ S., long. 125° 59′ 45″ W., a Noddy (*Anous stolidus*) flew on board exhausted. Early on March 21st (lat. 26° 10′ S., long. 128° 6′ W.) a White Tern (*Gygis candida*) came on board and was brought to me.

At 6 A.M. on March 22nd we sighted Pitcairn Island. As we neared it I saw two dark Shearwaters and a Tropic-bird (*Phaëthon rubricauda*). The sea was like glass and the place looked very beautiful. This home of the mutineers of the 'Bounty' is a very small island; it appears to rise straight up from the sea to its highest point, 1000 feet above sea-level. The land is covered with banana- and cocoanut-trees, and from the sea may be seen here and there patches of deep red-coloured earth. We stayed at Pitcairn Island for a day and a half. I went all over it. There are at present about two hundred inhabitants—the descendants of the mutineers. They are a fine strong-looking race of people. Many sorts of fruit are grown in different parts, and the people live on these and on the goats, of which there are plenty. There is only one land-bird there (*Tatare vaughani*), which is fairly abundant. On the shores I saw *Phaëthon rubricauda*, *Anous stolidus*, *Gygis candida*, and *Procelsterna cinerea*. A rat (probably *Mus rattus*) has been introduced, but I did not see a specimen. The common Fowl runs wild over the island, and is shot when required for eating; its flesh is very tough. A crab (*Grapsus*) is common on the rocks round the island, and a lizard * (a skink) is abundant. I did not see any butterflies. I caught three microlepidoptera, some mosquitoes, and some crickets. The most interesting object to me was the curious Warbler, which has only recently been discovered.

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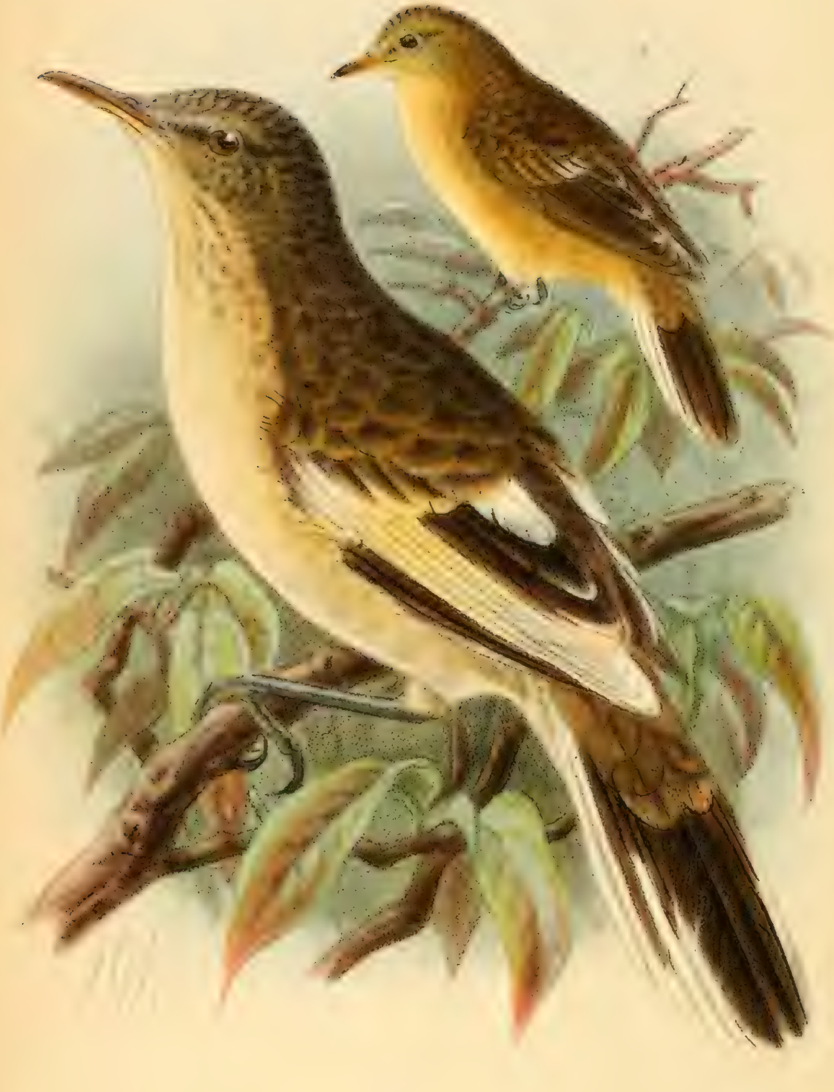
* [The skink, Mr. Boulenger kindly informs us, is *Lygosoma cyanurum*, a widely-spread Polynesian species.—EDD.]



J. G. Keulemans del. et lith.

Mintern Bros. imp.

TATARE VAUGHANI.

TATARE VAUGHANI. (Plate I.)

Tatare vaughani Sharpe, Bull. B. O. C. vol. xi. p. 2 (October 1900).

Five specimens: 3 ad. females, 1 young female, and 1 sex uncertain.

Adult. Iris black; bill pale brown; tarsi and toes bluish grey.

As *Tatare vaughani* has been only shortly diagnosed in the original description, I append a brief account of my specimens:—

(*a*) *Adult female.* Crown and mantle dark olive-brown, the feathers edged with pale yellow; nape of neck paler; rump and upper tail-coverts pale brown. Primary-coverts like the back; some of the greater wing-coverts brown and others white. Rectrices 12 in number, white with a pale lemon-yellow wash; remiges principally white, although some of the quills are partly brown, the long secondaries being mostly brown. Chin pale yellow, the feathers of the throat yellow with pale brown bases. Abdomen pale yellow; flanks slightly washed with tawny. Under tail-coverts pale tawny buff. Iris black, bill pale brown, tarsi and toes bluish grey. Whole length 6·5 inches, wing 2·9, tail 3·0.

(*b*) *Female*, which I take to be a younger bird, has more brown in the wings and a brown feather in the tail. The wings are very irregularly marked with brown. In specimen (*a*) the first primary of one wing is white, while that of the other wing is brown with a white tip.

(*c*) *Female,* apparently also immature, has several of the feathers of both wings and tail brown.

(*d*) *Immature.* Mantle rufous brown; crown and nape slightly paler; wings dark brown, the primaries and wing-coverts edged with pale rufous brown. Tail dark brown, almost black; in some lights paler transverse bars may be seen on the rectrices. Chin and upper throat rufous buff, flanks paler; middle of abdomen nearly white; under tail-coverts rufous buff.

(*e*) One of the immature examples has a white feather just appearing in the tail, and the sixth primary of one wing is entirely white.

This remarkable little bird, which is numerous all over the island and is the only land-bird, was discovered by Lieut. Vaughan, of H.M.S. 'Duke of Wellington.' He brought home six specimens in spirit and presented them to the British Museum. Dr. Sharpe named the species after its discoverer. The adult bird is remarkable for having the rectrices and most of the remiges white or creamy white. Until I obtained my specimens, the plumage of the young was unknown. It differs chiefly from the adult in having no white on the wings or tail. The upper parts are olive, with narrow paler edges to the feathers, and the under parts pale rufous buff. In its habits this little bird resembles a Warbler (*Sylvia*); it lives in the orange-trees and bananas which thickly cover the island, where there are no reeds and no streams of water. Its alarm-note is a loud "*chek-chek.*" The young birds make more noise than the adult. I heard and shot one immature bird which was screaming almost like a Jay. At the highest point of the island (1000 ft.) I found it more abundant than lower down, but I saw several individuals close to the landing-place. I was told that the nest was placed in a thick bush or tree about 6 to 8 ft. from the ground, but I did not see one. The adults look very curious as they fly, the mixed white and brown primaries giving them the appearance of Pied Sparrows. The people of Pitcairn call them "Sparrows."

We left Pitcairn Island on March 23rd for Tahiti, Society Islands. On March 26th four Tropic-birds (*Phaëthon rubricauda*) followed us all day; their cry much resembled that of a Tern. I saw this bird several times sitting on the water. On March 28th (lat. 23° 20′ 23″ S., long. 142° 58′ 28″ W.) I observed several examples of *P. rubricauda* and *P. lepturus*. On March 29th, nearly twenty-four hours before we sighted land, I saw two examples of *Gygis candida*. We made Tahiti on March 30th, and landed the same day at Papeete. The only birds I noticed off the island were *Gygis candida* and *Anous stolidus*, but with a strong glass I could discern Tropic-birds (*Phaëthon lepturus*) flying high up against the forest-covered peaks. A Swift (*Collocalia*) was flying about the town, and imported Minahs (*Gracula*) were abundant. On applying for leave to shoot, I was much disappointed to be told that a law had just been passed to forbid the killing of birds, and that the Governor was "unable" to make an exception in my favour. I may say that I saw very few birds of any sort about the seaboard, and it was stated that of late years the rats had killed nearly all of them.

I therefore spent my time in collecting butterflies. I found them very scarce, and only obtained examples of two species. I caught, however, a number of microlepidoptera. The French Governor of the islands kindly gave us a large Pigeon in a cage, which had been brought from the island of Makattea, one of the Paumotu group. Unfortunately its wings had been cut, while it had been placed in a cage without any perches and had consequently worn its tail down very short. We kept it alive till just before we reached home. I skinned it and preserved the sternum and gizzard.

This imperfect specimen appears to belong to a new genus and species, perhaps allied to *Calœnas*, but requires careful examination and comparison before it can be described.

On April 17th, 1903, we left Tahiti, for Tutuila, in the Samoan group, where we arrived in the afternoon of April 22nd. As we neared the island I saw numbers of flying-fishes. During the voyage I watched these fishes carefully, both with and without glasses, and distinctly saw them moving their wings in flight. The harbour of Pago-pago at Tutuila is about two miles in length, and is almost in the middle of the island. The formation is volcanic, and the harbour appears to occupy the place of an ancient crater. We landed as soon as we anchored, and walked through the native village up part of the hill behind. Birds were fairly numerous, especially *Ptilotis carunculata*. I saw also a Parroquet and several examples of *Myzomela nigriventris*. A large Fruit-bat was very abundant at dusk, when it comes down from the hills.

The next day I walked up the hill again to a height of about 1000 ft., at which altitude *Gygis candida*, *Anous stolidus*, and *Phaëthon lepturus* were fairly plentiful, flying about among the cocoanut-trees. I saw also numbers of Kingfishers and shot several of them, but, owing to the very long and thick undergrowth, I lost all but one. Tutuila is a very beautiful island, mountainous and thickly wooded. It rained hard all the time that we were there, so we did not see the tops of the peaks so clearly as we might have done. I obtained examples of the following three species of land-birds:—

1. PTILOTIS CARUNCULATA (Gm.).

Ptilotis carunculata Gadow, Cat. B. ix. p. 225.

♂. Iris pale yellow; bill dark brown; gape and wattles yellow.

This was the most abundant bird at Tutuila, usually keeping to the tops of the cocoanut-palms. It has a loud and pleasant thrush-like song and a variety of call-notes, the commonest being a loud laugh like that of a woodpecker.

2. APLONIS ATRIFUSCA (Peale).

Aplonis atrifusca Sharpe, Cat. B. xiii. p. 134.

♂. Iris black; bill black; tarsi and toes dark brown.

This Starling was fairly abundant in the cocoanut-trees and was very noisy.

3. HALCYON PEALII Finsch et Hartl.

Halcyon pealii Sharpe, Cat. B. xvii. p. 266.

♂. Iris black.

We had only one day at Tutuila, and although I saw several Kingfishers, I managed to secure only this specimen. Its gizzard contained green caterpillars. I shot it at an altitude of about 300 ft., sitting in a cocoanut-palm.

This species is peculiar to the island; there are two specimens of it in the British Museum.

We left Tutuila for the neighbouring island of Upolu at 6 A.M. on April 24th. Upolu was just visible from Tutuila. Between the two islands I saw examples of *Phaëthon lepturus*, *Gygis candida*, *Anous stolidus*, and *Sula leucogastra*. At 5.30 P.M. we entered the coral-reef and anchored off Apia. It was pouring with rain and the whole island of Upolu was nearly hidden by clouds.

The British Consul at Apia kindly invited me to shoot over his ground in the hills behind Apia, at an altitude of about 1000 ft. *Lalage pacifica* and *Todirhamphus recurvirostris* were fairly common among the trees in the streets of the town. I made enquiries about *Didunculus strigirostris*, but was told that it was getting very rare, and was only to be met with high up in the mountains, where it is said to keep up in the trees. But it was impossible to get a specimen during our short stay.

On April 26th I walked along the shore, about six miles out of Apia, and returned by an inland path. I found *Charadrius dominicus* abundant along the beach, the adults having nearly attained their full breeding-plumage. I saw also several examples of *Totanus incanus*. The next day I went up to the Consul's place in the hills and obtained about thirty specimens of the following twelve species of land-birds:—

1. LALAGE PACIFICA (Gm.).

Lalage pacifica Sharpe, Cat. B. iv. p. 97.

♂. Iris black.

I found this Flycatcher fairly common at Apia, but only in the town. Outside the boundaries, where I was able to shoot, I seldom saw it. It is a very noisy bird, and has the actions of a Warbler (*Sylvia*).

2. PETRŒCA PUSILLA Peale.

Petrœca pusilla Sharpe, Cat. B. iv. p. 168.

♂, ♀ juv. Iris hazel; bill dark brown; tarsi and toes yellowish brown.

Of this species I saw only the two examples obtained: they were sitting on the bushes at the side of a hill-road and uttered a "*check-check*" like a Wheatear. The immature example shews the spotted plumage of the nestling on the mantle.

3. RHIPIDURA NEBULOSA Peale.

Rhipidura nebulosa Sharpe, Cat. B. iv. p. 315.

Sex not ascertained. Iris hazel.

I saw but few individuals of this species at Apia, and that which I shot was the only one met with at sea-level. At 1000 feet the bird was rather more abundant. I heard its song once. A male was sitting on a bare branch singing and spreading its tail.

4. MYIAGRA ALBIVENTRIS (Peale).

Myiagra albiventris Sharpe, Cat. B. iv. p. 377.

♂. Iris black.

This was the only example that I saw. It was obtained at an elevation of about 1000 feet.

5. PACHYCEPHALA ICTEROIDES (Peale).

Pachycephala icteroides Gadow, Cat. B. viii. p. 204.

600–1000 ft.

♂ ♀. Iris hazel; bill, tarsi, and toes black.

This bird was fairly common at an altitude of about 600 ft. It was seeking food in the tall trees amongst the leaves, like a Warbler (*Sylvia*).

6. MYZOMELA NIGRIVENTRIS Peale.

Myzomela nigriventris Gadow, Cat. B. ix. p. 130.

♂. Iris black; bill, tarsi, and toes black.

As common on Upolu as on Tutuila, but always keeping high up in the cocoanut-palms, and very active and difficult to shoot; it has a shrill chirp, but I heard no song.

7. PTILOTIS CARUNCULATA (Gm.).

Ptilotis carunculata Gadow, Cat. B. ix. p. 225.

♀. Iris pale yellow; bill dark brown: gape and wattles yellow.

This is the most abundant bird in the Samoan Islands. It usually keeps to the tops of the cocoanut-palms.

8. APLONIS ATRIFUSCA (Peale).

Aplonis atrifusca Sharpe, Cat. B. xiii. p. 134.

♀. Iris black; bill black; tarsi and toes dark brown.

This species is fairly abundant on Upolu. It is very noisy and is seen, as a rule, high up in the cocoanut-palms.

9. COLLOCALIA FRANCICA (Gm.).

Collocalia francica Hartert, Cat. B. xvi. p. 503.

♂. Iris black; bill black; tarsi and toes dark brown.

This little Swift was very common on Upolu, and had exactly the actions of our Common Swift (*Cypselus apus*).

10. TODIRHAMPHUS RECURVIROSTRIS (Lafr.).

Todirhamphus recurvirostris Sharpe, Cat. B. xvii. p. 290.

♀ ♀. Iris black; tarsi and toes brown.

This little Kingfisher was common on Upolu. It is surprising to one unaccustomed to its habits to see a Kingfisher suddenly fly out of a thick bush; but hedges along the roadside, far from water, seem to be a favourite place for this species. Its food consists of beetles and caterpillars.

11. PTILOPUS FASCIATUS (Peale).

Ptilopus fasciatus Salvad. Cat. B. xxi. p. 98.

Upolu, Samoa, 1000 ft.

♂ ad., ♂ juv. This beautiful little Pigeon is not uncommon on Upolu at an altitude of about 1000 ft., but is very shy. It feeds on the fruit of a tall tree; this fruit is about the size of a large olive and is swallowed entire.

12. DEMIEGRETTA SACRA (Gm.).

Demiegretta sacra Sharpe, Cat. B. xxvi. p. 137.

♂ in the blue phase.

This little Egret is very abundant in all the Samoan Islands, and I also saw it at Tahiti. I observed more of the blue than of the white form. It is usually seen walking about on the coral-reefs, but I observed several individuals perching on trees.

We left Apia on April 29th for Suva, the capital of the Fiji Islands. On April 30th (lat. 15° 9′ 9″ S., long. 175° 50′ W.) an immature example of *Sula piscator* flew on board and was captured. Early on the morning of May 3rd we entered the fine harbour of Suva, in the Island of Viti-Levu. I landed and walked into the country and found birds abundant, but difficult to see, as the woods are very thick. The mongoose has been introduced here and has become a nuisance; it was imported to kill the rats, and when the these were gone it began to eat the chickens and even the young pigs. A Minah has also been introduced and is common about the town. As we were so short a time in Fiji, I had only two days' collecting, both of which I passed in a mangrove-swamp on a river-bank. We made one visit to the reef outside the harbour, and took two natives with us to look for shells, as they are very clever at finding them. I obtained examples of nine species of birds on Viti-Levu near Suva, namely:—

1. PINAROLESTES VITIENSIS (Hartl.).

Pinarolestes vitiensis Sharpe, Cat. B. iii. p. 299.

♀. Iris hazel; bill dark brown; tarsi and toes lead-coloured. This specimen was obtained near the ground in the dense forest; it was the only specimen of the species that I saw.

2. PINAROLESTES NIGROGULARIS Layard.

Pinarolestes nigrogularis Sharpe, Cat. B. iii. p. 301.

♂. Iris black; bill pale green, with black streaks along the culmen; tarsi and toes lead-blue.

I shot this specimen in a mangrove-swamp. It was the only example that I observed.

3. RHIPIDURA LAYARDI (Salvad.).

Rhipidura layardi Sharpe, Cat. B. iv. p. 336.

Sex not ascertained. Bill dark brown, lower mandible white; tarsi and toes brown.

This Flycatcher was fairly common near Suva. I watched a pair which I believe had a nest, but I was unable to find it.

4. PACHYCEPHALA GRAEFFII (Hartl.).

Pachycephala graeffei Gadow, Cat. B. viii. p. 202.

♂ ad. Iris hazel; bill black; tarsi and toes lead-blue.

♂ juv. Tarsi and toes brown with a blue tinge.

I saw but few of these birds. The adult was in grand plumage; the younger individual was in moult, some of the golden feathers appearing on the abdomen. These birds were very shy, and I observed nothing of their habits.

5. MYZOMELA JUGULARIS (Peale).

Myzomela jugularis Gadow, Cat. B. ix. p. 136.

♂; ♂ juv. Iris black; bill black; tarsi and toes brown, soles yellow.

This Honey-sucker was fairly common in the high bushes near Suva.

6. ZOSTEROPS EXPLORATOR Layard.

Zosterops explorator Gadow, Cat. B. ix. p. 172.

♂. Iris pale brown; bill dark brown, base of lower mandible blue; tarsi and toes lead-blue.

This White-eye was rather common at Suva. I usually saw it in small flocks, especially in the gardens of the town.

7. APLONIS VITIENSIS Layard.

Aplonis vitiensis Sharpe, Cat. B. xiii. p. 131.

♀. Iris hazel; bill black; tarsi and toes brown.

The example obtained was the only one seen. I shot it close to a mangrove-swamp, where it was sitting in some high bushes.

8. HALCYON SOLOMONIS (Ramsay).

Halcyon solomonis Sharpe, Cat. B. xvii. p. 280.

♀. Iris black; bill black, base of lower mandible white; tarsi and toes brown.

I shot my example of this Kingfisher in a mangrove-swamp near Suva. The range usually ascribed to *H. solomonis* extends only as far eastwards as the New Hebrides, and the Fijis seem to be outside of it. But the specimen does not agree with the type of *H. suvensis* Sharpe, and matches examples of *H. solomonis* in every respect.

Only *Halcyon sacra*, which is quite a different species, is mentioned in Wiglesworth's list ('Aves Polynesiæ,' p. 9).

9. CARPOPHAGA LATRANS (Peale).

Carpophaga latrans Salvad. Cat. B. xxi. p. 202.

♂. Iris red; bill dark brown; tarsi and toes dull red.

This specimen was purchased in the flesh at Suva. I did not see living examples of the species, which is peculiar to the Fiji group.

We left Fiji on May 6th, 1903. On May 13th I saw several Petrels (*Oceanites oceanicus*). Late at night on May 16th (lat. 9° 4′ 55″ S., long. 144° 20′ E.) a young *Sula leucogastra* was caught on board, and on the same occasion I saw numbers of *Sterna fuliginosa*. That day we entered Torres Straits, and at night anchored off Stevens Island. On May 17th we passed many coral islets, flying over which were numbers of the smaller Frigate-bird (*Fregata ariel*). Several White Egrets passed us, and we could see flocks of these birds sitting on trees on the islands. Later in the day an individual of *Larus novæ-hollandiæ* followed us; this was the first Gull seen since leaving Chile. At 6.30 A.M. the next day we entered the harbour of Thursday Island. I went ashore soon afterwards and saw numbers of birds, and shot several. I put up two large Bustards, probably *Otis australis*.

Thursday Island is covered in many places with the large and curious nests of the white termite, some of which were eight feet in height. I made several visits to the reef which surrounds the harbour. While we were at Thursday Island I went in the launch to Prince of Wales Island, about five miles distant, and found a fair number of birds there. The islands in Torres Straits seem to be halting-places for many species migrating from New Guinea to Australia and *vice versa*. I saw some Plovers of the genera *Charadrius* and *Ægialitis* at Thursday Island, but was not able to obtain any of them.

I secured examples of the following twelve species of birds on the two islands of Torres Straits which we visited:—

Chibia bracteata (*Gould*).
Graucalus hypoleucus *Gould.*
Cinnyris frenata (*S. Müll.*).
Myzomela obscura *Gould.*
Philemon buceroides *Swains.*
Dicæum hirundinaceum (*Shaw & Nodder*).
Hirundo neoxena *Gould.*
Podargus papuensis *Quoy & Gaim.*
Merops ornatus *Lath.*
Numenius variegatus (*Scop.*).
Tringa subarquata (*Guldenst.*).
Sterna bergii *Licht.*

As will be seen, these are nearly all well-known Australian species, but I may make the following remarks:—

Myzomela obscura is fairly common on both these islands;

I found a nest containing one egg which resembled that of a Great Tit. The structure was very thin and made of fine roots; it was placed amongst the leaves of a willow tree on Prince of Wales Island.

On Thursday Island on May 18th I shot a Curlew-Sandpiper (*Tringa subarquata*) on the coral-reef. It was the only specimen that I saw, and was in full winter plumage. This Sandpiper has been found occasionally as far south as Tasmania, and there are several Australian specimens in the British Museum.

We left Thursday Island on May 23rd for Singapore. On the night of May 24th (lat. 10° 6′ S., long. 138° 17′ E.) an example of *Phaëthon rubricauda* which flew on board was caught and brought to me. On May 28th we sighted Timor. On May 30th we were in view of Lombok, the highest peak of which (12,000 feet alt.) was just apparent above the clouds. On June 2nd we passed Caumata Island, in Caumata Passage, between the Java Sea and the China Sea. On June 3rd, as we passed Bintang, I saw two specimens of *Sterna fuliginosa*, and at midnight we arrived at Singapore.

The next day I visited the Botanical Gardens (under the care of Dr. Ridley) and the Raffles Museum, where there is a collection of birds. I was surprised to find that the Sparrows all about the town appeared to be identical with our Tree-Sparrow (*Passer montanus*). I was not able to do any bird-collecting at Singapore.

On June 9th we left Singapore for Colombo. I noticed several Brahminy Kites (*Haliastur*) and two Ospreys (*Pandion haliaëtus*) as we went out. On June 15th (lat. 5° 23′ 39′ N., long. 84° 45′ 30″ E.) a large Skua (*Megalestris antarcticus*) flew close past the ship, and I saw it distinctly. I afterwards noticed in the Colombo Museum two specimens of this species, which had been taken in Ceylon*. On June 16th (lat. 5° 21′ 46″ N., long. 82° 17′ 21″ E.) an example of *Phaëthon indicus* flew on board and was brought to me. On June 17th we arrived at Colombo. Outside the harbour

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* See also Legge, 'Birds of Ceylon,' p. 1050.

I saw *Sterna fuliginosa* and *S. dougalli*. In the harbour there were numbers of Brahminy Kites (*Haliastur indus*) and swarms of Crows (*Corvus splendens*); the latter were in hosts all over the ships in the harbour, and throughout the town also: there was quite a "rookery" in some trees by the roadside in one of the streets. I had no opportunities for collecting at Colombo. I visited the Museum, in the gardens of which I saw what I believe to have been an immature example of *Motacilla borealis*.

We left Colombo on June 20th for Aden. On June 30th we sighted Cape Guardafui, and reached Aden on July 2nd. The barren hills round it were fearfully hot, and I saw very few land-birds there. I obtained only one, a small Rock-Chat (*Myrmecocichla melanura*). *Milvus migrans* was common about the harbour. I went out into the gulf in the evening and shot several Terns (*Sterna media*, *S. bergii*, and *S. anæstheta*) and a Gull (*Larus hemprichi*).

We left Aden on July 3rd and entered the Red Sea next day. *Larus hemprichi* was seen, and followed us for some time. On July 9th we passed Sinai, when *Larus leucophthalmus* appeared and remained with us all day. Early the next morning we got to Suez and started through the Canal, arriving at Port Said on July 11th.

The following morning I went by train from Port Said to Kantara, alongside of the Suez Canal. From Kantara I walked to the east end of Lake Menzaleh, and found birds fairly abundant, especially *Aëdon galactodes*. I noticed *Acrocephalus stentoreus* breeding in the reeds near the lake, but was not able to get out to the nest. The song was very loud and harsh, and could be heard at some distance. Several Swallows (*Hirundo savignii*) were flying about. I also saw a greenish Warbler, probably *Hypolais polyglotta*.

We finally left Port Said on July 13th, and, after being detained three days at Gibraltar in quarantine, arrived at Cowes Roads on August 1st.

Altogether during our voyage we had covered about 38,000 miles, 15,000 of which were under sail. We were at anchor 103 days or parts of days, and at sea 153 days.

In concluding my ornithological journal I wish to be allowed to offer my best thanks to Lord Crawford for his very great kindness in taking me with him, as Naturalist, during his journey round the world. It is obvious that on a voyage of this sort opportunities for collecting on land must be few and often hurried. If the result, as regards birds, appears to be rather meagre, I can only say that I did my best on every possible occasion. The number of specimens of birds obtained during the voyage was 225, all of which have been presented by Lord Crawford to the British Museum. The skins were made by my own hands, and labelled with date and locality. I have determined them mainly by comparison with specimens already in the National Collection, and hereby offer my very best thanks to Dr. Bowdler Sharpe, Mr. Ogilvie-Grant, and their excellent assistant Mr. Charles Chubb for the kind aid which they rendered me throughout.

IV.—*On the Breeding of some of the Waterfowl at Gooilust in the Year* 1903. By F. E. Blaauw, C.M.Z.S.

Although the summer as well as the greater part of the spring of the year 1903 have been unusually damp and cold, yet waterfowl have bred well, and their chicks have nearly all survived. The first birds to breed at Gooilust were, as usual, the Cereopsis Geese (*Cereopsis novæ-hollandiæ*). They are kept in a six-acre enclosure, in which some Sunda oxen (*Bos sondaicus*) and antelopes (*Damalis albifrons*) are confined during the summer months, both being the respectful servants of the Geese. In the beginning of February the *male* (which is a great nest-builder for a Goose) made a rather elaborate structure on a heap of straw lying against the south side of a brick building which houses the above-named ruminants during the winter. The female laid five eggs and sat on them with great assiduity, notwithstanding occasional frost and snow. All the time the male kept a sharp look-out, and always stood over the nest whilst the female took her daily round in quest of food. In due course five black-and-white chicks were hatched, which have all reached maturity.

Cereopsis chicks are very hardy and are well tended by their parents. They feed chiefly on young grass, while bread and, at a later period, buckwheat are welcome additions.

The first plumage of the young closely resembles that of the adults. The grey, however, is of a still more delicate shade and the round black marks on the wing-coverts are more numerous and more conspicuous. The legs, which are of a lead-colour at first, soon acquire the black-and-pink markings of the adult—after having passed through a greenish stage. The young birds moult their first plumage when about six months old. The flight- and tail-feathers, however, are retained until the second moult in the following year.

The next birds to lay eggs in 1903 were a pair of Sandwich-Island Geese (*Neochen sandvicensis*), a species which has become extremely rare in Europe of late years. These birds are kept at Gooilust in a small grass-grown enclosure, with plenty of shrubs and a wooden shed in it. As they are not happy in the frost and snow, I have them shut up in the shed every night after winter has set in. One good result of this arrangement is that the birds usually build a nest in the hay which covers the floor, and this makes it possible to protect them and their eggs from the cold weather that often prevails at the early season when they are accustomed to lay.

Last February five eggs were laid. These were all hatched, and during the whole time of incubation the male was constantly on the watch beside the female, running with great fury at everyone who came near.

The chicks are of a dark olive-green, darker on the head and back and whitish on the under parts. The tips of the wings are nearly white, the bill and legs black.

These birds grow very quickly, so that at the age of about nine weeks the wings have to be cut to prevent them from flying away.

The immature dress is very much like that of the adults, but the general tone is more grey than yellow, and all the black or brown markings are less clearly defined. The curious spiral ridges in the neck-feathering are already visible in the young bird. The yellow of the neck is greyish black, and is darker in the young males, so far as my experience goes.

At the end of July the young birds began to moult, and in about six weeks had acquired the adult plumage, the flight- and tail-feathers being retained, as in other young waterfowl, until the following year.

Of this particular brood of five, I had the misfortune to lose three when they were only half-grown. A very cold night seems to have been the cause of their death.

Of the Magellanic Goose (*Chloëphaga magellanica*) I reared a brood of four this year, two males and two females—being the produce of four eggs. It is worthy of note that in this Goose, as well as the nearly allied *C. dispar*, there are two *colour*-forms when the chicks are in down. Some of them are dark grey all over, being only slightly lighter on the underside, with black heads and whitish throats, whilst others have distinct dark markings on a nearly white ground and a light head with only a longitudinal dark mark on it. At first (for I had never bred these birds before) I thought that the dark chicks were females and the light chicks males. Afterwards, however, I found that the colour of the down had nothing to do with the sex of the birds. The young females get their yellow legs when the feathers begin to appear, and their first plumage resembles that of the old female except that the brown is duller and the black markings are not so well defined and seem thinner and more numerous. The young males differ from the adult male in not having the breast pure white, but striped with narrow blackish lines. Besides, all the markings are weaker and less conspicuous.

The shining green wing-bar is absent in the young birds of both sexes. At the end of September they begin to moult, and assume the adult dress in a couple of months. The green wing-bar, however, is not generally assumed until the second summer, and the male does not get its white breast at once, but the colour increases gradually as the bird gets older.

A pair of the Black-banded Goose (*Chloëphaga dispar*) at Gooilust laid six eggs, which were all hatched. In the chicks of this species the differences in colour correspond with those of *C. magellanica*, but are intensified. Some of the chicks are most brilliantly marked with black and white, whilst others are almost entirely black. These striking colours, however, soon fade, so that after the chicks are a week old much of their brilliancy is gone.

The Ashy-headed Goose (*Chloëphaga poliocephala*) is certainly the finest, but also the most delicate, of all the Geese that I have had in my garden. The best way to ensure success with this species is to give a constant supply of cabbage, besides grass and grain. With care I have managed to keep it since 1890, having only once had to procure a fresh importation of two males. At the present time I am the happy owner of an old pair, three young pairs, and an odd male.

The female of my breeding pair laid five eggs last spring, from which four chicks were hatched. One of these died, but the remaining three have been doing well and are now in their first moult.

The chicks in down are uniform in colour, unlike those of the foregoing species. They have dark grey markings on the back of the head and neck on a whitish-grey ground. Their first plumage resembles that of the adults, but is much less brilliant. The breast is brownish and striped all over with blackish lines. The white of the belly is also less in extent. They begin their first moult in October, but seldom finish it until the following spring.

During cold nights, especially if there is snow on the ground, I have these birds driven into a shelter, and the birds of the year appreciate this arrangement very much.

The Ruddy-headed Goose (*Chloëphaga rubidiceps*) is the smallest of the South-American group, but thrives well under domestication. I obtained my first male of this species (an imported bird) in 1886, and at the same time I procured a female from the Gardens of the Zoological Society of London. From this pair I have had numerous broods, and, unless I am very much mistaken, all the Ruddy-headed Geese now in Europe have descended from them. The old male, which is now mated to one of his daughters born in 1887 (his original mate having died six years ago), has been in my park for seventeen years, but nevertheless gave me this spring a brood of three young birds, which have done well and are now moulting.

The chicks of this species are marked with dark grey on a ground of whitish grey, and are the least conspicuously coloured of any of the group. The first plumage of this Goose also resembles that of the adults, except that the ground-colour as well as the markings are less clear and well defined. Thus, for example, the white of the wing is mixed with grey and the glossy green wing-bar is altogether absent. The legs, which at first are black, get their yellow markings when the chick begins to acquire its feathers. The young birds begin to moult at the end of September, generally completing the change before the new year.

Proceeding to the Maned Goose (*Chenonetta jubata*), I must allow that I have not yet had complete success with this bird. A year ago one of my females laid two eggs in April, dropping them about without making any nest. These two eggs were placed under a common hen, and, after twenty-eight days of incubation, were hatched. Unfortunately the hen killed both the chicks. They were, so far as I could judge from the mangled bodies, of a nearly uniform dark grey colour.

My old pair of Snow-Geese (*Chen hyperboreus*), which I have had since the year 1888, bred again last spring. They sat on three eggs only, but I believe that the nest had been robbed of part of its contents by a pair of Cranes. It was, as usual, full of down, and was situated under a bush near the edge of the pond. In about four weeks the three eggs were hatched.

The young of this Goose when in down is grey, darker on the back and lighter on the under side. The head is yellow, with a dark mark on the occiput. The bill and legs are black. These birds grow very rapidly, much more quickly than the young of the Bernicles and their allies. The first plumage is extremely beautiful, especially when the feathers are just appearing between the still conspicuous patches of down. The birds then look as if they were clad in unburnished silver. Later, much of the delicate beauty of the coloration fades, and the plumage may then be described as follows:—

General colour silver-grey (with a very slight brownish tinge), darkest on the back and hind part of the neck, and nearly white on the breast and belly. There is a dark mark on the occiput, which is also observable in the downy dress. Each of the darker grey feathers of the back has a white edging, varying in width. The tail-feathers are white, with a grey spot in the centre. The large flight-feathers are black, although the black is not so intense as it is in the adult bird. The bill and legs, which are black in the chicks, soon become brighter. The bill gradually passes from black to pink. The legs, however, first change from black to yellowish grey or greenish, and to pink afterwards. In October the first white feathers begin to appear, and the birds gradually assume the white dress of the adult.

In former years* I have repeatedly bred young birds from a male of the Blue Snow-Goose (*Chen cærulescens*) and a white female of *Chen hyperboreus*, when the results of the union have invariably been Blue Snow-Geese, and not specimens intermediate in plumage between the two forms. This year a pair of these Blue Snow-Geese (the result of a mixed union) has bred, and the result has been a brood of four young, all recognisable at once as true Blue Snow-Geese.

The chicks of the blue form are quite different from those of the white form, being of a dark olive-green, darkest on the back and on the head, which is almost black. The first plumage is slaty grey throughout, being darkest on the head, which becomes white in the adult stage. But the larger wing-coverts have slightly lighter edgings. The first moult of this bird generally takes place in the end of October, and with it the white feathers of the head appear. At the same period the bill and legs gradually begin to become pink, instead of being dark, as they were up to that time.

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* See P. Z. S. 1899, p. 413.

I bred Ross's Snow-Goose (*Chen rossi*) in 1902, as already described in 'The Ibis' (1903, p. 245), but lost the chicks after about a fortnight. In 1903 the female laid eggs again, but they were unfortunately destroyed by vermin, so that I am not yet able to describe the first plumage.

My pair of Trumpeter Swans (*Cygnus buccinator*) bred again this season. Six eggs were laid and six chicks were hatched. The chicks are white, with a grey tinge on the back. The cere is covered with pure white down. The bill is flesh-coloured, with a dark tip, and the legs are also flesh-coloured. The down of these chicks is very short and dense, quite different from the longer and more fluffy down of the chicks of *Cygnus nigricollis* and *C. atratus*. The result is that the chicks look much smaller in comparison. A conspicuous feature is the long neck, which is carried very stiff and upright. At the age of about six weeks the first feathers appear, and the birds then begin to grow very quickly. The first feathers are brownish grey, without any markings as a rule, but one of this year's birds is remarkable for having transverse markings on the shoulders and greater wing-coverts. After the birds are feathered the bills gradually acquire the black colour, the black beginning at the point and at the forehead, and gradually increasing. Later, the middle part, which is still pink, gets spotted with black, and in the course of the February following the first summer the whole of the bill usually becomes quite black. The legs by that time have also gradually darkened into dusky grey, which becomes black after the birds are a year old. About March white feathers begin to replace the grey plumage, and when a year and a half old the birds are quite white, except for some fine grey spots, which are still visible on the back of the neck and on the head. *Cygnus buccinator* never carries its chicks on its back, as *Cygnus nigricollis* and some of the other Swans are apt to do.

During the first days of the life of her chicks, the old female Trumpeter often retires to her nest for hours together, warming them under her, and she continues to do this during the night for a long time. Young Trumpeter Swans, when fully fledged, are very active birds. They fly with great ease, rising directly from the water into the air, without running over it at first with flapping wings, as so many of the larger waterfowl do. They also dive with great ease.

Of Bewick's Swan (*Cygnus bewicki*), I have not bred any yet, but in October 1902 a young bird of the year, which had been winged on the Zuiderzee, was brought to me. I had, therefore, opportunities of observing its juvenile dress and its changes of plumage.

The colour of the feathers was of a nearly uniform brownish grey, of a lighter shade than in a young Trumpeter Swan. The bill was flesh-coloured, blackish at the point, with a few black spots near the front, and lighter at the sides in front of the eyes. The legs were grey. By the following March the bill had become black, with a few flesh-coloured spots. The parts of the beak which in the adults are yellow were now well-defined and nearly white zones. The legs and feet were blackish. The grey plumage was at that time much intermixed with white. When a year and a half old the bird was like an adult, except that the neck had still some grey spots, as is the case with a young Trumpeter Swan of the same age.

I kept a pair of the African Comb-Goose (*Sarcidiornis africana*) for many years without their shewing any signs of breeding. Last summer, however, I saw the birds copulate repeatedly, and the female began to wander about restlessly in search of a suitable nesting-place. As she was pinioned and quite unable to fly, I was not a little surprised to find her one day in one enclosure and another day in a second, although the wire-netting partitions which surrounded them were quite six feet high. The only explanation is that she must have climbed the fence, as she could certainly not have gone through it. In some of the enclosures there are hedges of *Thuya*, with a wire-netting fence two feet high in front of them, to prevent the Geese getting underneath. The female finally decided to make her nest under one of these hedges. To get there she was seen to jump upon this two-feet-high fence, balance herself on the thin top, and plunge into the hedge. She scraped a little round depression in the soil under the evergreens, and then laid her eggs, accomplishing her jumping-feat each time that she wanted to go in or out of her nest. Unfortunately she did not care to sit, so that we had to put her eggs under a bantam hen: I am sorry to say, however, that they did not hatch, but proved to be unfertile. The eggs are yellowish white, and rather more pointed at one end than the other.

Gooilust, s'Graveland,
30th October, 1903.

V.—*The Linnean* Motacilla stapazina *identified and restored to use.* By T. Salvadori, H.M.B.O.U.

Looking through the pages of the recently published vol. iv. of the 'Hand-list of the Genera and Species of Birds,' by Dr. Bowdler Sharpe, I happened to stop at the genus *Saxicola*. I was rather surprised to find that no species bore the familiar Linnean name *stapazina*, which is (p. 179) relegated to the synonyms of *Saxicola rufa* (Steph.). That a Linnean name should stand as a synonym of one published more than fifty years later seems to be quite against the rules of nomenclature!

I know that the name *stapazina* has been too often misunderstood, so that many mistakes have been made by ornithologists, who have applied the term to two different species—the Black-eared Wheatear (*Saxicola albicollis* Vieill. = *S. aurita* Temm.) and the Russet Wheatear, which has the throat black, whereas the former has it white. Should the difficulty of identifying Linné's *Motacilla stapazina* be insuperable, I quite understand that we ought to give up using his name, but that is not the case. *Motacilla stapazina* is certainly the white-throated bird or Black-eared Wheatear.

Linne's description is as follows:—"M[otacilla] ferruginea, *area oculorum alis caudaque fuscis,* rectricibus extimis latere albis. *Habitat* in Hispania, Italia."

The first reference given by Linné is *Œnanthe altera* Aldr. orn. 2, p. 763; and turning to Aldrovandi we find (*l. c.*), besides a good description*, an unmistakable figure of the Black-eared Wheatear with the *white* throat.

What do we want more than this to identify *Motacilla stapazina* with the Black-eared Wheatear? Therefore *Saxicola stapazina* (Linn.) is the proper name of the species which has been named *Vitiflora rufa* by Stephens, *Œnanthe albicollis* by Vieillot, *Saxicola aurita* by Temminck, and *Sylvia rufescens* by Savi.

Mr. Dresser, in his 'Birds of Europe' (vol. ii. pp. 203, 207), has already shown that the Black-eared Wheatear should stand as *S. stapazina,* but as regards the Russet Wheatear with black throat I think that the name *Saxicola rufa* (C. L. Brehm, 1831) used by him is not the proper one, the same name having been employed in 1818 by Stephens for the Black-eared Wheatear†. This was the reason why, in 1886, in my "Elenco degli uccelli Italiani" (Ann. Mus. Civ. Gen. (2) iii. p. 116), I proposed for the Western Russet Wheatear the name of *Saxicola occidentalis.*

Dr. Sharpe, in the volume already quoted, has made several mistakes as regards the names and synonymy of the two species under consideration.

Failing to recognise that the Linnean name *stapazina* belonged to the Black-eared Wheatear, which he calls *S. albicollis* (Vieill.), he has wrongly included *stapazina* (Linn.)

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* ". . . . capite, collo, dorso, alarum pennis minoribus, pectore et ventre ex ruffo flavescens (sic), dorso intensius, pectore remissius, oculis nigris, *retro quos macula est oblonga etiam nigra,* figura quodammodo semilunari . . . ."

† "V[itiflora] ferruginea, alis fuscis, *area oculorum caudaque nigris,* rectricibus extimis latere albis." (. . . . *space round the eyes* and the tail black, and the sides of the outer tail-feathers white.)

among the synonyms of the Russet or Western Black-throated Wheatear. Besides this, he makes the mistake of using for this species the name *S. rufa* of Stephens, which belongs to the Black-eared Wheatear. Next to *M. stapazina* Linn., Dr. Sharpe puts in the synonymy *S. occidentalis* Salvad., which I still believe to be the proper name of the Western Russet Wheatear. Finally, among the synonyms of his *Saxicola rufa* (= *occidentalis* Salvad.), Dr. Sharpe puts *Saxicola catarinæ* Whitaker (Ibis, 1898, p. 624), which, whatever it may be, is a form of the Black-eared Wheatear, and not of the Russet Wheatear.

Mr. Dresser, in his recently published 'Manual of Palæarctic Birds,' uses for the Russet Wheatear the name *Saxicola stapazina*, attributing it to Vieillot, and leaving us ignorant of the fact that it is a name of Linné's, who gave it to the Black-eared Wheatear, which Mr. Dresser calls by Vieillot's name, "*Saxicola albicollis.*" I suppose that Mr. Dresser decided to do this in order to avoid the apparent difficulties involved in the use of Linné's name, but I do not think that the law of priority, especially as regards Linné's names, can be so freely ignored.

I add the principal references to the two species of which I have been speaking, and from these we can easily understand the history of their nomenclature.

1. SAXICOLA STAPAZINA (Linn.).

Œnanthe altera Aldr. Orn. ii. p. 763 (cum fig. bona) (1645).

The Red or Russet-coloured Wheat-Ear (hen), Edw. Nat. Hist. i. p. 31, pl. 31 (fig. posterior) (1743).

Œnanthe fulva, part., Edw. op. cit. ii. p. 126. n. 31 (1747).

Vitiflora rufescens Briss. Orn. iii. p. 457, pl. xxv. fig. 4 (optima) (1760).

Vitiflora rufa, part., Briss. tom. cit. p. 459 (femina) (1760).

Motacilla stapazina Linn. S. N. i. p. 331. n. 14 (1766) (ex Aldrovandi); Gm. S. N. i. 2, p. 966. n. 14 (1788).

Sylvia stapazina, part., Lath. Ind. Orn. ii. p. 530. n. 80 (femina) (1790); Savi, Orn. Tosc. ii. p. 206 (part.) (1831).

Sylvia stapazina β Lath. Ind. Orn. ii. p. 530 (1790).

Vitiflora rufa Steph. Gen. Zool. x. 2, p. 569 (1817).

Œnanthe albicollis Vieill. N. D. xxi. p. 424 (1818).

Saxicola aurita Temm. Man. d'Orn. i. p. 241 (1820).

Sylvia albicollis Vieill. Enc. Méth. ii. p. 485 (1823).

Sylvia rufescens Savi, Orn. Tosc. i. p. 223 (1827).

Saxicola stapazina Dress. B. of Eur. ii. p. 203, pl. xxiii. (1874).

Saxicola albicollis Dress. Man. Pal. B. p. 37 (1902); Sharpe, Hand-l. iv. p. 176. n. 8 (1903).

2. SAXICOLA OCCIDENTALIS Salvad.

The Red or Russet-coloured Wheat-Ear (cock), Edw. Nat. Hist. i. p. 31, pl. 31 (fig. anterior) (1743).

Œnanthe fulva, part., Edw. op. cit. ii. p. 126. n. 31 (1747).

Vitiflora rufa, part., Briss. Orn. iii. p. 459 (mas) (1760).

Sylvia stapazina, part., Lath. Ind. Orn. ii. p. 530. n. 8 (mas) (1790): Vieill. Enc. Méth. ii. p. 485, pl. 118. fig. 3 (1823); Savi, Orn. Tosc. i. p. 225 (1827), ii. p. 206 (part.) (1831).

Œnanthe stapazina Vieill. (nec Linn.) N. D. xxi. p. 425 (1818).

Saxicola stapazina Temm. (nec Linn.) Man. d'Orn. i. p. 239 (1820); Dress. Man. Pal. B. pt. i. p. 36 (1902, nec B. of Eur. 1874).

Vitiflora rufa C. L. Brehm (nec Steph.), Vög. Deutschl. p. 406 (1831).

Saxicola rufa Dress. (nec Steph.) B. of Eur. ii. p. 207, pls. xxiv., xxv. fig. 2 (1874); Sharpe, Hand-l. iv. p. 179. n. 43 (1903).

Saxicola occidentalis Salvad. Ann. Mus. Civ. Gen. (2) iii. p. 116 (1886).

Saxicola melanoleuca occidentalis Arrig. Atl. Orn. pp. 172, 173, fig. capitis (1902).

VI.—*Saldanha Bay and its Bird-Islands.* By W. L. Sclater, Director of the South African Museum.

About seventy miles north of Table Bay, on the western coast of Cape Colony, lies the magnificent land-locked arm of the sea known as Saldanha Bay. Completely sheltered from every wind, with an ample depth of water and an area for anchorage sufficient to accommodate the bulk of the British Navy, it has one drawback, the scarcity of fresh water, which has hitherto prevented any great use being made of it as a harbour.

Joris van Spilbergen, a Dutch navigator who sailed from Zeeland in 1601, first discovered this bay, and by a misapprehension attached to it the name of the Portuguese Admiral, Saldanha, who a hundred years previously, in 1503, had been the first to enter Table Bay and to ascend Table Mountain.

For the first hundred years after its discovery and until Spilbergen's voyage Table Bay had been known as Saldanha Bay, and did geographers attach the same importance to "priority" in nomenclature as do some of our ornithological friends, there is no doubt that the old name of Saldanha would be revived for our present Table Bay, while a new title would have to be invented and applied to the present Saldanha Bay. Even in the time of Van Riebeck, who founded the settlement at the Cape in 1652, Saldanha Bay and its islands were noted for the abundance of their sea-birds; and the old records often refer to expeditions made there to procure a supply of eggs, which were used for consumption at the settlement, while seal-skins obtained by the slaughter of the Cape Seal (*Arctocephalus pusillus*) were also collected and found to be a valuable article of export.

Probably the first naturalist who visited Saldanha Bay was Levaillant, the well-known French traveller and ornithologist. Soon after his arrival at the Cape, in 1781, he proceeded to Saldanha Bay on board the 'Middelburg,' one of the ships of the Dutch fleet which was ordered that year to retire there to avoid an English expedition under

Commodore Johnston, which was known to be sailing for the Cape. Levaillant spent three months at Saldanha Bay and in its environs and made considerable collections. He visited Schaap or Sheep Island, and gives an account of the numerous rabbits there. He also visited a bird-island which he calls "Dassen" Island, but which appears, from his description of it, to have been Marcus Isle. He noticed the large number of sea-birds nesting there, and gave a description of the Penguins. Finally, he had the mortification of seeing the Dutch ships all fail into the hands of the English under Commodore Johnston, who appeared unexpectedly in the Bay, having obtained information that the Dutch were lying there. The 'Middelburg,' on which Levaillant was living, was the only ship which was not captured. She was fired by her skipper, Van Gennep, and sunk in shallow water in Hoetjes Bay. There she still lies, and was being explored for treasure by divers during my recent visit. They had then found little except some Chinese crockery, which apparently had formed the greater part of her cargo.

During the last year a good deal of attention has been attracted to Saldanha Bay as an alternative harbour, or perhaps more as an adjunct to that of Table Bay, owing to the great pressure and block in the Cape Town Docks; and a syndicate, which has bought up a good deal of the land in the neighbourhood, is proposing to build a railway across country to Porterville Road Station on the main line to Johannesburg and to develop the port. They also intend to bring fresh water to supply the proposed harbour from the Berg River, about twenty miles inland, by pumping it through a series of pipes running across country over the hills.

It had long been my intention to pay a visit to Saldanha Bay and to some of the bird-islands there, and this was rendered more easy by the enterprise of Messrs. Bucknell Brothers, who now run a small steamer there every week, leaving on Friday and returning on Tuesday.

Embarking at the Cape Town Docks in the early morning of September 25th last in the s.s. 'Blairgowan,' we reached Hoetjes Bay, the name given to the northern portion of

Saldanha Bay, where a small village is situated, about 6 P.M. Very few Duikers (Cormorants) were seen in the Cape Town Harbour, where they are usually numerous, but plenty of Gulls of both our common species (*Larus dominicanus* and *L. hartlaubi*) were circling and wheeling about among the ships in the docks, and occasionally settling down on the water to pick up the garbage floating there. As soon as we were well away from the harbour several Cape Hens (*Majaqueus æquinoctialis*) began to follow in our wake. These birds are very easily recognised by the little white patch under the chin, all the rest of the plumage being smoky black; their wings are long and narrow, and their flight is very Albatross-like. Although I watched them for a long time I never could see them flap their wings; they appeared to float in the air, depending entirely on the aeroplane system to keep them up, while ranging to and fro across the wake of the ship, and wheeling round with the points of the wing turned respectively down to the water and up to the sky. Only once did they settle on the water; this was when some scraps were thrown out from the galley, on seeing which they immediately sank down to the water and commenced to feed.

Off Robben Island we began to see a few Duikers. Their flight is a great contrast to that of the Cape Hens; they are generally found in small parties of three or four, and follow one another in a long line with a straight flight, not very high above the surface of the water, flapping their wings the whole time. Hereabouts, too, the Penguins began to be fairly numerous, swimming and diving in parties of ten or twelve. Some distance away a few Terns were observed fishing, plunging down into the water like falling stones and recovering themselves very rapidly. They were too far off to identify, but were probably the Common Tern (*Sterna fluviatilis*). As we neared Saldanha Bay the Malagas (*Sula capensis*) began to appear in large numbers, flying back towards Malagas Isle from the fishing-grounds around. During the voyage I was rather surprised not to see any Cape Pigeons (*Daption capensis*), Mollymawks (*Diomedea* *exulans*), or Giant Petrels (*Ossifraga gigantea*); they had probably started for their breeding-grounds in the Crozettes and other islands far away to the south.

We arrived at Hoetjes Bay about 6 P.M., and I at once made arrangements to visit some of the bird-islands on the following day. These are five in number, and are all, like Dassen Island, the property of the Colonial Government, which works them chiefly for the guano produced yearly by the millions of birds nesting there.

Early the next morning Mr. Kasner, who is in charge of Marcus, and has been connected with the islands for the greater part of his life, took a friend and myself off to visit Jutten Island, outside Saldanha Bay, a little to the south of the narrow entrance. This island differs from most of the others in having a small kopje, perhaps about fifty feet in height, in the centre. All round, about twenty or thirty yards from the sea, there is a low stone wall built to keep out the Penguins, and within the enclosure thus formed were to be seen Trek-Duikers' (*Phalacrocorax capensis*) nests in thousands, the greater part of the island being covered with birds just commencing to breed.

The nests, which are about a foot in diameter, are placed on the ground, and are made of the stems of plants and grasses growing on the islands. The eggs, three to five in number, are regular ovals, almost equally pointed at both ends. They are chalky in texture and white with pale blue underlying the white; the average measurement is 55 × 34 mm. (about $2\frac{1}{4} \times 1\frac{3}{8}$ inches).

Hovering overhead were a good many Gulls of two species (*Larus dominicanus* and *L. hartlaubi*). These are terribly destructive, and carry off all the eggs and young Duikers left unguarded by their parents. I was told that the Gulls nested on the kopje in the centre of the island. As the Duikers are very easily scared, we were not allowed to go within the enclosure, but we found a few birds nesting outside, and were able to secure some eggs.

On some rocks by the shore were several Bank-Duikers (*Phalacrocorax neglectus*) also sitting on their nests. The

Bank-Duiker can be at once distinguished from the Trek-Duiker by its greater size and by the absence of all trace of yellow at the gape, the skin in this region being dark like the rest of the plumage. In the older birds a patch of white, more or less developed, appears on the rump, and is often conspicuous when the bird is flying. The Bank-Duiker feeds chiefly on crayfish (*Palinurus*) and Hottentot fish (*Cantharus blochi*), which are found about parts of the sea-bottom where there are rocks overgrown with seaweed; and by watching the places to which the Bank-Duikers resort for fishing in the early morning, fishermen are able to discover the best fishing-banks. It is from this fact that the Bank-Duiker derives its name.

The nest of this Duiker is quite different from that of the Trek-Duiker; it is formed entirely of algæ, polyzoa, and hydroids, matted together into a flat cushion which is placed on the smooth top of a rock near the sea. The eggs resemble those of the Trek-Duiker in structure and colour, but are somewhat larger, averaging 65 × 40 mm. (about $2\frac{1}{2} \times 1\frac{5}{8}$ inches). The Bank-Duiker is extraordinarily fearless, and will remain on its nest until the intruder is within a foot or two of it; in fact, it is not difficult to catch it by hand and thus secure specimens. In addition to the Duikers, there were still some Penguins on the island, and a few fresh eggs of these birds were secured. The breeding-season for the Penguins begins in May, but the eggs are collected all through May, June, and July, and the birds go on laying till August, when they are allowed to hatch out their eggs and go off to sea again. A few, however, can be found nesting during every month of the year.

Leaving Jutten Island we sailed across the mouth of the bay to Malagas Island, leaving that of Marcus on our right. This island lies just in the mouth of the bay, and is comparatively small, having produced last year, according to the Government returns, only 88 tons of guano against 378 collected from Jutten and 688 from Malagas. Marcus affords a breeding-ground chiefly for Trek-Duikers and, of course, Penguins, while I was told by my boatman, Mr. Kasner (who has charge of the island), that a few of the large White-breasted Duikers (*Phalacrocorax lucidus*) and some large red-billed Terns (probably *Sterna bergii*) also nest there. As, however, my time was somewhat limited and the landing is rather difficult, I decided not to visit Marcus, but continued on to Malagas.

This island is surrounded by rocks and low cliffs from about ten to twenty feet in height, so that landing is not very easy, and it is necessary to spring from the stern of the boat on to the slippery rocks at the right moment if one wishes to arrive dry-shod.

The whole of the interior of this island is more or less flat, and is covered everywhere with countless numbers of the Cape Gannet or Malagas. They were sitting so closely that they were in many cases almost touching each other. They were not in the least disturbed by our approach; on the contrary, if we stepped among them they at once pecked at us with their powerful light blue beaks, with which they could easily effect a nasty wound. At the time that we landed the breeding-season had just begun. The nest consists of a little mound of mud and guano with a slight depression at the top, while everywhere between the nests the ground is quite bare, and white with the deposit of guano. Only one egg is laid: on this the bird sits very closely, covering it with its large webbed feet. The eggs, of which I secured a good number, were extremely dirty, even when they seemed to have been freshly laid. The colour is almost pure white and the shape oval; the average dimensions are 80 × 50 mm. (*i. e.* $3\frac{1}{8} \times 2$ inches).

All the time that I was watching the birds fresh individuals were constantly arriving from the sea and others starting off again, while there was a good deal of noise—a kind of raucous squeaking. There was also much quarrelling and fighting going on among the birds; one individual, in particular, I noticed with the whole of its neck ripped open and streaming with blood. Altogether it was certainly the most remarkable assemblage of birds that I have ever witnessed.

A few Duikers of three species (*Phalacrocorax capensis, P. neglectus,* and *P. africanus*) nest on this island. I took some eggs of the little long-tailed or crowned species (*P. africanus*). Their nests, like those of the Trek-Duiker, are woven from the stalks of weeds growing on the island, not from seaweed; they are placed, as a rule, in crevices or on the tops of flat rocks, but not on the ground. The eggs, from two to four in number, are like those of the Trek-Duiker, but are somewhat smaller, measuring about 47 × 32 mm. (*i. e.* $1\frac{7}{8} \times 1\frac{1}{4}$ inches). When sitting on their nests the little Duikers can be at once distinguished by the crest of short feathers on the top of the head, whence they are generally known among the island men as "Crown-Duikers"; the iris, too, is bright red in colour and forms a very prominent feature, as it can be seen at some distance.

The following day we started off again early in the morning to visit the southern end of the bay. Just south of the entrance there are two small islands known as Schaap (i. e. *Sheep*) and Meu or Meuven. These, like the other islands, are reserved by the Colonial Government, although no guano is collected there; they are, however (especially Meu), the resort of countless numbers of Gulls of two species, both for roosting and nesting. As the Gulls are very destructive to the eggs and young birds of the guano-producing "Duikers" and "Malagas," their eggs and young are destroyed during the breeding-season, especially on these islands.

On landing on Schaap Island I found that in addition to the Gulls there were a few Crown-Duikers (*Phalacrocorax africanus*) there, but no Trek- or Bank-Duikers. Most of the Crown-Duikers had nests among the pointed rocks on the outskirts of both the islands, but I found that a few had also occupied some old and apparently dead thorn-bushes (*Acacia*) which grew more towards the centre of Meu Island. I was much disappointed that I was too early for the Gulls, as I was unable to find a single pair breeding. I was informed that they built their nests on the ground among the rank growth of a species of tansy, which covered the greater part of the flat interior of both Schaap and Meu Islands. The larger Gull (*Larus dominicanus*) breeds in October, as I was informed, while the smaller (*L. hartlaubi*) nests in June. In addition to the Gulls there were a number of Black Oyster-catchers, or "Tobies," as they are called locally (*Hæmatopus moquini*). These were generally seen in pairs standing about the rocks, and were too cautious to allow a very near approach. We also saw quite a number of Egyptian Geese (*Chenalopex ægyptiacus*), called Spur-winged Geese locally, Rock-Doves (*Columba phæonota*), which breed in an old semi-submerged hulk not far away, Sanderlings (*Calidris arenaria*), and Sand-Plovers (*Ægialitis marginata*), besides Wagtails (*Motacilla capensis*) and Seisjes (*Serinus*).

These two islands share with Robben Island in Table Bay the distinction of being the only places where the European rabbit has established itself in South Africa. They are very plentiful here, but difficult to shoot as the vegetation is thick and high. The history of their introduction is not known, but they have been on the islands since the time of Levaillant, one hundred and twenty-three years ago, and it would be interesting to compare them with those inhabiting England to see whether their long isolation has produced any effect on their structure.

Beyond the islands the bay extends for another eight or ten miles up, where it is called the lagoon. The water here becomes a good deal shallower, and there are many sandbanks of considerable size. On the banks here, when covered with from eight to twelve inches of water, there are vast flocks of Flamingos (*Phœnicopterus*). They can be seen at a great distance, and then appear like a row of white dots on the surface of the water. On a nearer approach their shape and attitude can be more clearly made out, and they are seen to be wading to and fro searching for food with their heads down on the sandy bottom. If a shot is fired at them they rise and fly off to another part of the lagoon, and it is only when this occurs that the crimson and black of the wings become visible. When flying their appearance is very peculiar, as the neck is stretched out straight in front and

i. *Islands on the Coast of Cape Colony.*

	Tons of guano collected in 1902.	Number of Penguin eggs gathered in 1902.	Chief guano-producing birds.
Bird Island in Algoa Bay ..	197	....	Malagas.
Dyer's Isle, nr. Danger Point in Caledon Division	253½	26,400	Trek-Duikers and [Penguins.
Seal Island in False Bay	....	....	....
Duiker Klip, nr. Hout Bay in Cape Division	3	....	Trek-Duikers.
Dassen Island, 60 miles north of Table Bay	240¼	325,000	Trek-Duikers and [Penguins.
Foundling's Island, south of Saldanha Bay............	93	....	Trek-Duikers
Jutten Island, Saldanha Bay.	378¼	98,000	,, ,,
Marcus Isle, Saldanha Bay ..	88¼	20,000	,, ,,
Malagas Island, Saldanha Bay.	688½	....	Malagas.
Paternoster Isle, north of Saldanha Bay............	69¾	....	Trek-Duikers.
Islands in Lambert's Bay, Clanwilliam Division	321¼	....	,, ,,
Elephant's Rock, off Olifant's River, Van Rhyn's Dorp Div.	25	....	,, ,,
Total	2357	469,400	

ii. *Islands on the Coast of German South-west Africa from the North southwards.*

	Tons of guano collected in 1902.	Chief guano-producing birds.
Hollam's Bird Isle	50	Trek-Duikers.
Mercury Isle............	120	,, ,,
Ichaboe	1300	Trek-Duikers and Malagas.
Possession Island	600	,, ,, ,,
Sinclair's and Plum-pudding Islands	120	Trek-Duikers.
Halifax Island	160	,, ,,
Pomona Island	80	,, ,,
Penguin Seal Isle........	15	,, ,,
	2445	
Add Colonial Islands	2357	
Total no. of tons of guano collected during 1902 for the Cape Government ..	4802	

the legs behind. I was told that they stayed in the water all night, and that they could then be easily approached and shot; certainly during the day it was impossible to get anywhere near them. Both species (*Phœnicopterus roseus* and *P. minor*) are said to be found in Saldanha Bay. The birds which I saw seemed to me to be of the larger species, but it was difficult to be certain as I could not get sufficiently close. The Flamingos do not breed at Saldanha Bay, but migrate northwards, probably to Lake Ngami and other marshy lakes in German South-west Africa; in October, however, there are always a few to be found about the lagoon.

The following day the weather was not very favourable for excursions, and I did not go far from the hotel. On the day after, when I returned to Cape Town, the weather still continued stormy and unpleasant, though it did not affect the steamer much, as the wind blew directly from the north in a direction favourable to our course.

In a former paper (Ibis, 1896, p. 519), containing a description of a visit to Dassen Island, I gave some account of the guano islands and of their administration by the Colonial Government. Perhaps I may supplement this with a few additional facts and figures chiefly derived from the Report of the Superintendent of the island, Captain Jackson, for last year (1902).

On p. 87 is given a list of the islands and the yield of guano and Penguins' eggs during the year in question, commencing at Port Elizabeth and passing along the coast to the Ichaboe Group off German South-west Africa.

VII.—*On further Collections of Birds from the Efulen District of Cameroon, West Africa*[*]. By R. Bowdler Sharpe, LL.D. &c.—Part I.

(Plate II.)

Mr. G. L. Bates has sent us further collections from Efulen, together with the following notes which I extract from his correspondence:—

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[*] [See 'Ibis,' 1902, p. 89, for an account of the previous collection and for information on the locality. Efulen is a village in the German colony of "Kamerun," about forty miles from the Port, Great Batanga.—Edd.]

"I felt sorry that the extracts from my letter were printed before you saw the specimens, which would have helped you identify the birds referred to; I regret that the corrections and additions given in my second letter could not be used. Please let me ask you to look again at the three birds which you have called *Hyphantornis cucullatus*. I certainly believed that there were two species among them, but my record is not very clear. I thought that the second and third were the common Weaver-bird of this district, which builds in colonies round the villages and fills the palm-trees and bananas with nests of the size of cocoa-nuts, having short downward-opening entrances; and that the first (May 27th, 'Ngas') was a different bird, which the people tell me is the builder of the remarkable nests found in the forest rather than around villages, with a tubular entrance almost as long as one's arm *.

"I am anxious to hear what you find among the birds received later. Since sending the last I have collected a good many specimens and am still finding new kinds. With the help of a book which I have, I can identify a good many of them—so far as the family goes, at least. Among the most interesting that I have obtained lately are some little birds of two kinds (judging from the size) that I take to be species of *Indicator* or 'Honey-Guide,' called by the Bulus 'Mali' †. They were all caught during the first four days of this month, in snares set by the schoolboys at the mission at one spot in a plantation-clearing not far off. A tree had just been felled that had a bees' hole in a dead part near the top. The bees' combs were full of 'bee-bread' and larvæ, but I did not see any honey. When I went to look on, the bees themselves were still there, clinging in a cluster to a limb over their ruined store. The boys had taken the combs and put them on the ground under snares like those described in my former letter ('Ibis,' 1902, p. 90), having discovered the 'Mali' birds eating the scattered combs. One of the little birds was perched on a twig watching us. The specimens skinned had wax and pollen in their stomachs, with bits of insects which may have been bees or ants.

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* [This is *Malimbus racheliæ*.—R. B. S.]

† [The Honey-Guides are *Indicator conirostris* and *I. exilis*.—R. B. S.]

"During a four days' trip into the forest to the north of this place I saw some interesting birds. I killed a Guinea-fowl of the same kind as that of which I sent two specimens before*. While going through the forest, far from any village, a flock of eight or ten of them flew up from the ground at the side of the path, with a loud whirr, making a sharp cackling noise. They lighted on the lower branches not far off, but were so perfectly hidden that not even Uba, who was with me, could find them. Each time one flew, it went a few rods only, to a higher station in the trees. Finally one was sighted among the leaves and shot.

"The other day a man brought me in a basket eleven live birds of one species, a kind of Swift. He had caught them all in a hollow tree, where he said that they had nests built of mud †.

"For the past two months I have been keeping a record of what was in the stomachs of the birds that I have skinned. I give you a little summary of it. [The scientific names in parentheses have been added by me.—R. B. S.]

"The Weaver-birds' stomachs generally contained seeds and seed-hulls and cassava, except the two or three kinds called 'Ngas,' which had remains of insects.

"The Sun-birds' stomachs never contained any vegetable substance, unless the little bird of April 16 is a Sun-bird (*Anthothreptes tephrolæma*); it had one large hard seed in its stomach. Two had little spiders almost whole, and the others had fragments of insects.

"The Bush-Shrikes, called 'Asanze' (*Fiscus mackinnoni*) and 'Ékōlat' (*Malaconotus gabonensis*), two kinds of 'Nko'e-bikôtôk' (*Laniarius luehderi*), and 'Ntyan' (*Dryoscopus verreauxi*) never had any vegetable substances in their stomachs. They contained remains of insects of all kinds, some large. One 'Ékōlat' (*Malaconotus gabonensis*) had a little frog almost whole.

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* [*Guttera plumifera.*—R. B. S.]

† [*Chætura cassini.*—R. B S.]

"The Thrushes and Warblers rarely had anything in their stomachs but remains of insects.

"The Flycatchers' stomachs never contained anything but insects, often large and nearly whole.

"The stomachs of the little Barbets (*Gymnobucco calvus* and *G. peli* and *Heliobucco bonapartii*) often contained vegetable substances, especially seeds of a fig-like fruit called 'Asen.'

"The large Barbet 'Ekuku' (*Trachyphonus purpuratus*) had what I took to be the gristly part of slugs.

"The stomach of the Trogon (*Hapaloderma*) contained, along with fragments of insects, some fibrous substance like grass or moss.

"The Wood-Hoopoe (*Scoptelus*) had remains of insects in its stomach.

"Only one of the Owls (*Syrnium nuchale*) had anything but insects in the stomach, and that had the hair and bones of a small rodent, together with beetles and grass. The horned 'Akun' (*Syrnium nuchale*) had big black beetles, such as are found in rotten logs. The horned 'Nduk' (*Huhua poensis*) had nothing but a recently swallowed Mantis.

"The green Parrots (*Pœocephalus aubryanus*) were shot in a tree, where they were feeding. These birds have so little fear that they will return to the same tree again and again, till all the flock is killed. They are seen here only occasionally.

"The sooty-black bird (*Laniarius leucorhynchus*) lives in the thick tangled growth of old garden-clearings, hiding when an intruder comes near and scolding with a noise as loud as that of cats fighting.

"The 'Ébondi' (*Dicrurus atripennis*), with outwardly curled tail-feathers, lives in the dense forest. It utters an agreeable call or short song.

"Other birds, the notes of which I have learned to know are:—The 'Éjakôa' (*Oriolus lætior*), which has a clear whistling note, reminding one of the American 'Bob White,' though not so loud. The little 'Abankwata' (*Cisticola erythrops*) is common in the gardens round the villages, and utters a short trill like that of the Song-Sparrow of America. The 'Nkwê-ele' (*Pycnonotus gabonensis*) is one of the commonest birds about village-plantations; it reminds me of the American Robin, cheerfully and boldly flitting about with its pleasant note, or scolding with its crest raised when displeased. These and the Parrots with their varied screams and calls, the harsh Hornbills and noisy Touracos, the little Barbets and the tiny Sun-birds with voices as fine as insects, together with some others mentioned in my last letter, are almost all the birds I recognise when I hear them, though there are many more of which I have not yet learned the notes.

"The small red-billed Hornbill (*Lophoceros camurus*) is often heard in the forest, though not often seen. Its note is more agreeable than those of the other Hornbills, and reminds one of the call which turkeys make to each other when a flock gets separated.

"Whenever you see a number of birds of different kinds flitting about near the ground in one place and twittering excitedly, you may be pretty sure that there is an army of 'driver ants' at hand. Many different kinds of birds join in the chase of the driver ants. I have even seen the small white-crested Hornbill (*Lophoceros hartlaubi*) engaged in it.

"The habit which many birds have of scratching for food among the dead leaves in the forest, where white ants abound, and probably other insects are found, is shown by the way in which these birds are snared. The Bulu boys find a place where the ground has been thus scratched over and set snares there. They then break up a white ants' nest and scatter it about the ground as bait. The birds spring the triggers of the snares when set, and are caught in the nooses by their legs, which are often broken by the jerk of the stick flying up. The kind most frequently caught this way is the 'Ntyon' (*Criniger chloronotus*); others are the drab 'Akalat,' the 'Ekwalat' (? *Callene* *cyornithopsis*), the 'Ngofio' (*Alethe castanea*), and the Quail 'Ôbem' (*Francolinus lathami*).

"A bird I have seen nowhere except in the native villages is the 'Nakume' (*Passer diffusus*). There it is numerous and tame, hopping about in the streets, looking for fragments of food, and perching on the roofs of the huts. It may be called the House-Sparrow of this country.

"The little 'Mese' (*Motacilla longicauda*) is seen along the banks of streams, apparently hunting for its food in the mud and sand. It has a habit of wagging its slender tail up and down."

The following is a list of the species represented in Mr. Bates's latest collections:—

1. FRANCOLINUS SQUAMATUS.

Francolinus squamatus Cass.; Grant, Cat. B. xxii. p. 169 (1893); Reichen. J. f. O. 1896, p. 5 (Victoria).

♂ ad. Efulen, May 28, 1902. "Ôkwal."

2. FRANCOLINUS LATHAMI.

Francolinus lathami Hartl.; Grant, Cat. B. xxii. p. 139; Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 38 (1895).

♀ ad. Benito River, French Congo, March 15, 1899.
♂. Efulen, Jan. 2, 1902.
♂ ♀ ad. Efulen, March 21, 28, 1903.
♀ ad. River Ja, Feb. 1903.

3. PHASIDUS NIGER.

Phasidus niger Cass.; Grant, Cat. B. xxii. p. 373.

♂ ad. Efulen, July 1, 1902. "Ékote mvem."
♂ ad. ,, March 24, 1903.
♂ ad. ,, May 6, 1903.

All these birds have brown feathers on the back, indistinctly vermiculated with black, but they are less distinct in the May specimen, which is blacker, both above and below. The male killed in July has the face lighter and more yellow, and has the abdomen mottled with white downy bases to the feathers; it is apparently a younger bird.

4. GUTTERA PLUMIFERA.

Guttera plumifera (Cass.); Grant, Cat. B. xxii. p. 384.

♂. Efulen, Aug. 20, 1901. "Mvem."

5. COLUMBA UNICINCTA.

Columba unicincta Cass.; Büttik. Notes Leyden Mus. vii. p. 226, pl. vi. (1885); Salvad. Cat. B. xxi. p. 242, note.

♀ ad. Efulen, May 13, 1903. "Afep."

The occurrence of this rare Pigeon in Cameroon is a fact of great interest.

6. TURTURŒNA IRIDITORQUES.

Turturœna iriditorques (Cass.); Salvad. Cat. B. xxi. p. 330.

♀ imm. Efulen, Jan. 29, 1902. "Zum."

This specimen is curious, for it shews no sign of the lilac-shaded cinnamon collar on the hind-neck, nor is it vinaceous below, but, on the contrary, it is slaty grey powdered with rusty-brown frecklings. As, however, the rufous abdomen and under tail-coverts, as well as the pattern of the tail, agree with those of the adult *T. iriditorques*, I can only consider it to be an immature example of that species.

7. TYMPANISTRIA TYMPANISTRIA.

Tympanistria tympanistria (Temm. & Knip); Reichen. J.f.O. 1892, p. 179 (Buea); Salvad. Cat. B. xxi. p. 504; Reichen. J. f. O. 1894, p. 91 (Jaunde); Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 35 (1895); Sharpe, Ibis, 1902, p. 92 (Efulen).

♀ jr. Efulen, July 25, 1901. "Ôdu."

♂ ♀ ad. June 4, 1902.

8. CHALCOPELIA AFRA.

Chalcopelia afra (Linn.); Salvad. Cat. B. xxi. p. 506; Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 35 (1895); Reichen. J. f. O. 1896, p. 5.

♂ ad. River Ja, Jan. 1903. "Ôdu."

9. CALOPELIA PUELLA.

Calopelia puella (Schl.); Salvad. Cat. B. xxi. p. 523.

Peristera puella Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 36.

♀ ad. Efulen, Feb. 3, 1902. "Ôdu."

10. CALOPELIA BREHMERI.

Calopelia brehmeri (Hartl.); Salvad. Cat. B. xxi. p. 524.

♀ jr. Efulen, June 2, 1902.

It is interesting to find *C. puella* and *C. brehmeri* inhabiting the same country, and I incline to the idea that the latter may be the young of the former.

11. HAPLOPELIA PLUMBESCENS, sp. nov.

Similis *H. principali*, sed saturatior et plumbescentior: subtus plumbescens, gula et abdomine albis, subcaudalibus pallide cinereis distinguenda. Long. tot. circa 10·0 poll., culm. 0·65, alæ 5·5, caudæ 3·5, tarsi 1·05.

♂ imm. Efulen, Jan. 21, 1902. "Zum."

The specimen, though not quite adult, shews such differences from *H. principalis* that it is quite impossible to unite it with the latter. It is altogether a darker and more lead-coloured bird, and the under surface of the body is nearly uniform leaden grey, with the lower abdomen whitish and the under tail-coverts pale cinereous, the chin and upper throat being white.

12. HIMANTORNIS HÆMATOPUS.

Himantornis hæmatopus Hartl.; Sharpe, Cat. B. xxiii. pp. 69, 339; Sjöst. K. Sv. Vet-Akad. Handl. 27. p. 31.

♀ ad. Efulen, May 31, 1902. "Nkule ngu."

The specimen has a decidedly greyish head, and is apparently older than the other examples in the British Museum.

13. CANIRALLUS BATESI.

Canirallus batesi Sharpe, Bull. B. O. C. x. p. lvi (1900).

♂ ♀ ad. Efulen, July 29, 1903.

The colour of the back varies somewhat in these two specimens, the female being more olive-brown, while the male is slightly more olive-greenish. The specific differences between *C. batesi* and *C. oculeus* may turn out to be of less importance than I formerly supposed.

14. SAROTHRURA BONAPARTII.

Corethrura bonapartei Bp.; Sharpe, Cat. B. xxiii. p. 123.

Sarothrura bonapartei Sharpe, Hand-l. B. i. p. 103.

♀ ad. Efulen, March 22, 1902. "Ôtue-bijilik."
♀ ad. „ April 18, 1902.

This species is now recorded from Cameroon for the first time; it was previously known only from Gaboon.

15. PORPHYRIOLA ALLENI.

Porphyriola alleni Thomps.; Sharpe, Cat. B. xxiii. p. 187.

♀ ad. Efulen, Nov. 21, 1901. "Zesol-ôsui."

16. PODICA CAMERUNENSIS.

Podica camerunensis Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 29, Taf. i. (1895).

♀ imm. Efulen, Feb. 1, 1902. "Mvoleku."

This specimen is mottled with dusky spots over the whole under surface, and thus it agrees with Professor Reichenow's characters for the young bird. Mr. Bates's example is younger than that figured by Dr. Sjöstedt and has a white throat.

17. TRINGOIDES HYPOLEUCUS.

Totanus hypoleucus (Linn.); Reichen. J. f. O. 1894, p. 30 (Victoria).

Tringoides hypoleucus, Sharpe, Cat. B. xxiv. p. 456.

♀ ad. Batanga, Dec. 12, 1901.
♀ ad. Efulen, March 30, 1903.

18. RHYACOPHILUS GLAREOLA.

Totanus glareola (Gm.); Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 28 (Bonge).

Rhyacophilus glareola Sharpe, Cat. B. xxiv. pp. 491, 764.

♂ ad. Efulen, Nov. 27, 1902.

19. HAGEDASHIA OLIVACEA.

Lampribis olivacea (Du Bus); Sharpe, Cat. B. xxvi. p. 38; Salvad. Ibis, 1903, p. 185.

No. 158. Efulen, May 19, 1903.

This is an adult example, the first received by the Museum. The story of this species has been told by Count Salvadori in the 'Ibis' for 1903, and until I read his paper I had no idea what dreadful errors I had committed!

How *Lampribis* got into the wrong section of the "Key," with the anterior aspect of the tarsus "plated," I cannot now explain. Whether it was a *lapsus calami* on my part or a printer's error, we shall never know; but it was certainly a mistake, for which I have to apologize. But let me assure Count Salvadori that *Lophotibis* really *has* a plated tarsus. It would also have been easy, I should have thought, to have asked me for an explanation, as I was the author of the statement.

The question, after all, is very simple, or at least it will be so when we have sufficient materials. Passing by *Hagedashia splendida* of Salvadori, from Liberia, which I have never seen, the difficulty remains as to whether *H. olivacea* and *H. rara* are the old and young of the same species, or whether they are distinct. At first I thought that they were the same (Cat. B. xxvi. p. 38), but afterwards I followed Messrs. Rothschild, Hartert, and Kleinschmidt in referring Du Bus's "*Ibis olivacea*" to *Hagedashia hagedash,* and in recognising their *Lampribis rara.* Count Salvadori unites the two once more ('Ibis,' 1903, p. 187), and concludes that *L. rara* is the young of *L. olivacea.* More recently Professor Reichenow (Orn. MB. xi. p. 132) has written a paper to shew that there are probably four forms—*Theristicus olivaceus, T. rarus, T. cupreipennis,* and *T. splendidus.* Certainly the Gold Coast form, *T. rarus,* has a much longer bill, and at present it seems only right to keep it separate.

20. PSEUDOTANTALUS IBIS.

Pseudotantalus ibis (Linn.); Sharpe, Cat. B. xxvi. p. 327.

♀ ad. Efulen, Aug. 5, 1903.

21. ARDEA MELANOCEPHALA.

Ardea melanocephala Vig. & Childr.; Sharpe, Cat. B. xxvi. p. 70.

♂ ad. Efulen, Dec. 3, 1902.

22. BUTORIDES ATRICAPILLA.

Butorides atricapilla (Afzel.); Sharpe, Cat. B. xxvi. p. 172;

Reichen. J. f. O. 1894, p. 30 (Victoria); Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 34 (1895).

♂ ad. Batanga, Dec. 12, 1901.
♂ juv. Efulen, June 5, 1903. "Zesol-ôsui."

23. TIGRORNIS LEUCOLOPHA.

Tigrisoma leucolophum Jard.; Reichen. Vög. Afrikas, i. p. 365 (1901).

Tigrornis leucolopha Sharpe, Cat. B. xxvi. p. 191.

♂ ad. Efulen, Dec. 13, 1902. "Zesol-ôsui."
♀ (?). ,, Aug. 5, 1903.

24. ARDETTA PAYESI.

Ardetta payesi Verr.; Sharpe, Hand-l. B. i. p. 202 (1899).

♂. Efulen, March 27, 1902. "Zesol-ôsui."

25. ARDEIRALLUS STURMI.

Ardea sturmi Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 34 (1899).

Ardeirallus sturmi Sharpe, Cat. B. xxvi. p. 244.

♀ ad. Efulen, Jan. 20, 1902. "Zesol bivele."
♂ ad. ,, May 21, 1902. "Zesol-ôsui."

26. PTERONETTA HARTLAUBI.

Pteronetta hartlaubi (Cass.); Salvad. Cat. B. xxvii. p. 63 (1895).

♀ ad. River Ja, Feb. 1903. "Alotok."

This specimen has but the faintest trace of a white line on the forehead.

27. POLYBOROIDES TYPICUS.

Polyboroides pectoralis Sharpe, Bull. B. O. C. xiii. p. 50 (1903).

Polyboroides typicus Sharpe, Cat. B. i. p. 48.

♂ imm. Efulen, July 8, 1901. (Shot by Mr. Johnston. Type of *P. pectoralis*.)
♂ imm. ,, Jan. 23, 1902. "Efufu Ôbam."
♀ imm. ,, July 1, 1902. ,,
♂ imm. ,, Nov. 29, 1902. "Efufuk Ôbi."
♀ (?). ,, May 1903.

In the last collection Mr. Bates has sent a fully adult bird, and I am now compelled to admit that my *P. pectoralis* was founded on immature birds, though their grey faces led me to think that they were adult. Dr. Reichenow (Orn. MB. xi. p. 72) states that he has also an adult bird from Cameroon which he cannot separate from South African birds. Notwithstanding this, I have never seen birds with the fulvous chest-patch from any other part of Africa.

28. Urotriorchis macrurus.

Urotriorchis macrurus (Hartl.); Sharpe, Cat. B. i. p. 83 (1874).

Astur macrurus Sharpe, Ibis, 1870, p. 58, pl. iii.

♂ ad. Bulu Country, Cameroon, 175 miles from the coast, Oct. 12, 1901. "Ze-yòp" (=Leopard of the air).

♂ ad. Efulen, Nov. 11, 1902.

Imm. „ May 1903.

The young bird is of great interest, shewing that the immature plumage is brown with reddish bars, and that the vinous under surface has buff-coloured bars. Unfortunately the skin has been prepared by a native and dried in smoke, so that it is too much discoloured to describe accurately. The specimen from Bulu agrees with an example from Landana in the Museum in being darker grey above and darker maroon-colour below than two examples from the Gold Coast (Denkera) also in the Museum; and I at first thought that two forms were to be recognised, but a third specimen from Denkera is absolutely undistinguishable from the Cameroon and Congo birds.

29. Astur castanilius.

Astur castanilius (Bp.); Sharpe, Hand-l. B. i. p. 248 (1899); id. Ibis, 1902, p. 92.

♂ imm. Efulen, Jan. 17, 1902. "Ôbi-mven."

♀ juv. „ Feb. 24, 1902.

The young bird killed in February has the wing 6·5 inches long, and must belong to *A. castanilius*. The young female recorded by me as of this species from Efulen, in the 'Ibis' for 1902 (p. 92), has the wing 8·6, and must belong to *A. tousseneli*. I had at that time no idea that the latter species had a blackish immature plumage.

30. ASTUR TOUSSENELI.

Astur tousseneli Verr.; Sharpe, Cat. B. i. p. 101, pl. vi. fig. 1 (1874).

Astur castanilius Sharpe, Ibis, 1902, p. 92.

♂ ad. Efulen, July 11, 1901. Wing 7·6. "Ôbi-mven."
♂ imm. „ Jan. 17, 1902. Wing 7·7.
♂ ad. „ March 12, 1902. Wing 7·5.
♀ ad. „ July 11, 1902. Wing 8·8.
♂ ad. „ Nov. 29, 1902. Wing 7·1. "Ôbi."
♀ ad. „ May 5, 1903. Iris bright yellow. Wing 8·3.

Thus we see that the length of the wing in males varies from 7·1 to 7·7 inches, and in females from 8·3 to 8·8 inches.

In *A. castanilius* the males have the wing 6·0 to 6·1 inches, and the adult females 7·1 to 7·3.

The young of the two species, in their mainly black plumage with white under surface spotted with black, are very much alike, and again as they approach maturity, when the vinous breast shews many cross-bars. The females of *A. tousseneli* approach in colour those of *A. macroscelides*, which I consider to be a form of *A. tachiro* and distinct from *A. castanilius* (*cf.* Reichenow, Vög. Afrikas, i. p. 554).

In the immature birds size alone seems to be the criterion for separating *A. castanilius* from *A. tousseneli*.

31. ACCIPITER ERYTHROPUS.

Accipiter erythropus (Hartl.); Sharpe, Cat. B. i. p. 141.

Accipiter zenkeri Reichenow, Orn. MB. ii. p. 125 (1894); id. J. f. O. 1896, p. 5, Taf. i.

♀ vix ad. Efulen, Aug. 14, 1902.

This specimen still retains a few indications of immaturity, but agrees very well with the plate given by Dr. Reichenow (*l. c.*).

32. ACCIPITER BATESI.

Accipiter batesi Sharpe, Bull. B. O. C. xiii. p. 50 (1903).

A. similis *A. hartlaubi*, sed rectricibus mediis maculis duabus albis notatis, minime concoloribus sicut in specie prius dicta; tibiis cinereis, paullum vinaceo lavatis et cinereo fasciatim irroratis; corporis lateribus dilute vinaceis. Long. tot. circa 11·2 poll., culm. 0·8, alæ 7·1, caudæ 5·2, tarsi 2·0.

a. Efulen, Aug. 4, 1902. "Ôbi-mven."

In his recently published volume of 'Die Vögel Afrikas' Prof. Reichenow has separated the small Sparrow-Hawks of West Africa into three species—*Accipiter erythropus*, *A. hartlaubi*, and *A. sharpei*. The last is the bird which I erroneously figured in the 'Catalogue of Birds' as *A. hartlaubi*, and is the form which is found from Cameroon to Benguela. It has vinous-chestnut breast and thighs. The true *A. hartlaubi* ranges from Senegambia to Togo-land, and is the bird which I named *A. buettikoferi*, from Liberia. The thighs are greyish, and the vinous colour on the sides of the body is paler than in *A. sharpei*.

Now Mr. Bates sends from Efulen a Sparrow-Hawk much larger than either of the foregoing species. It is a hen bird, which may account for the size (wing 7·1 inches). It approaches *A. hartlaubi* in colour, having greyish thighs with a few dusky grey bars and a faint tinge of vinous. The breast is faintly barred with grey and the sides of the body are pale vinous; the specimen, however, differs from *A. hartlaubi* in having two oval spots of white on the central tail-feathers, as in *A. sharpei*. Cameroon is supposed to have only *A. sharpei* as its representative species, so that, in any case, the occurrence of an *Accipiter* of the type of *A. hartlaubi* is interesting, and, so far as our facts carry us, it must be looked upon as an undescribed form.

The British Museum contains the following adult examples of these little Sparrow-Hawks:—

Accipiter hartlaubi.—*a.* Liberia, Sept. 24 (*J. Büttikofer*). *b.* Accra. Presented by Messrs. Mordaunt.

Accipiter sharpei.—*a.* Ad. Gaboon (*Marche*).

Accipiter batesi.—*a.* ♀ ad. Efulen, Aug. (*G. L. Bates*).

33. ACCIPITER SHARPEI.

Accipiter hartlaubi (nec Verr.); Sharpe, Cat. B. i. pl. vi. fig. 2.

Accipiter sharpei Reichenow, Vög. Afrikas, i. p. 564 (1901).

♂ ad. Efulen, May 27, 1903. "Ôbi-mven."

This example agrees with the specimen from Gaboon figured in the 'Catalogue of Birds.'

34. ACCIPITER MELANOLEUCUS.

Accipiter melanoleucus Smith: Sharpe, Cat. B. i. p. 156 (1874); id. Ibis, 1902, p. 92.

♂ ad. Efulen, Dec. 31, 1902.

35. LOPHOTRIORCHIS LUCANI.

Lophotriorchis lucani Sharpe & Bouvier: Sharpe, Hand-l. B. i. p. 263 (1899); id. Bull. B. O. C. xii. p. 79 (1902).

Hieraëtus lucani Reichen. Vög. Afrikas, i. p. 580 (1901).

♂ ad. Efulen, April 10, 1902. "Ze-yôp."

The adult plumage of this interesting Hawk-Eagle has now been ascertained for the first time, and a brief description of it has been given by me (*l. c.*). The general colour is black, with broad brown or greyish-brown bands on the scapulars, quills, and tail-feathers; sides of face black; under surface pure white, with a black patch on each side of the breast, and black axillaries; thigh-feathers and under tail-coverts with large terminal black spots; under wing-coverts mostly black; quills white below with black tips and more or less with remains of narrow black bars. Total length about 20 inches, culmen 1·45, wing 13·2, tail 8·5, tarsus 2·75.

36. SPIZAËTUS CORONATUS.

Spizaëtus coronatus (Linn.); Sharpe, Cat. B. i. p. 266 (1874).

♂ ad. Efulen, June 8, 1903.

A magnificent adult specimen of this fine Eagle.

37. DRYOTRIORCHIS SPECTABILIS.

Dryotriorchis spectabilis (Schl.): Sharpe, Cat. B. i. p. 270; Reichen. J. f. O. 1892, p. 189 (Barombi-station): id. J. f. O. 1896, p. 7 (Victoria).

♀ ad. Efulen, July 11, 1902. "Éba-ndôi."

♂ juv. ,, Aug. 13, 1903.

The hen bird seems to be the most nearly adult example of this species that the Museum has received, the under surface being almost entirely white, with black bars on the flanks and rufous bars on the thighs. The moustache and median stripe on the throat are greyish black and quite distinct. We have now in the Museum two specimens from Denkera on the Gold Coast; these are very rufous on the throat and chest, and are strongly marked with black spots. Besides the above-mentioned bird from Efulen, we have a young bird from the Ogowé River (*H. T. Ansell*), and another from the Aruwhimi River (*Capt. Guy Burrows*). In his last collection also Mr. Bates has sent a young bird which agrees with the latter.

38. HALIAËTUS VOCIFER.

Haliaëtus vocifer (Daud.); Sharpe, Cat. B. i. p. 310; Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 39 (1895).

♀ ad. Efulen, May 19, 1903.

39. MILVUS ÆGYPTIUS.

Milvus ægyptius (Gm.); Sjöst. K. Vet.-Akad. Handl. 27. p. 40; Reichen. J. f. O. 1896, p. 7.

♂. River Ja, Jan. 1903.
♀ ad. „ Feb. 1903.

40. ELANUS CÆRULEUS.

Elanus cæruleus (Desf.); Sharpe, Cat. B. i. p. 336.

♂ ♀. Efulen, May 14, 28, 1902.

41. PERNIS APIVORUS.

Pernis apivorus Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 39 (1895).

♀ imm. Efulen, Nov. 5, 1902.

42. SCOTOPELIA BOUVIERI.

Scotopelia bouvieri Sharpe, Ibis, 1875, p. 260; id. Cat. B. ii. p. 11, pl. i. (1875).

♂. Efulen, Aug. 14, 1901. "Nduk."

This specimen exactly resembles the type from Gaboon in the British Museum.

43. HUHUA LEUCOSTICTA.

Bubo leucostictus Hartl.: Sharpe, Cat. B. ii. p. 41 (1875).
Huhua leucosticta Sharpe, Hand-l. B. i. p. 284 (1899).

♀. Efulen, April 19, 1902. "Akuñ."
♂ ad. „ May 12, 1902.
♀ ad. „ March 19, 1903.
♀ ad. „ June 4, 1903.
♂ ad. „ June 3, 1903.

A female specimen was previously obtained by Mr. Bates on the Benito River in the French Congo-district, where the species is called "Nisege."

The males are very much darker than the females, that killed on the 3rd of June being blackish; whereas the prevailing colour of the females is more of a reddish brown.

44. HUHUA POENSIS.

Bubo poensis Fraser; Sharpe, Cat. B. ii. p. 42 (1875).
Huhua poensis Sharpe, Hand-l. B. i. p. 281 (1899).

♀. Efulen, March 20, 1902. "Nduk."
♂ juv. „ May 14, 1902.
♀ ad. „ April 30, 1903.

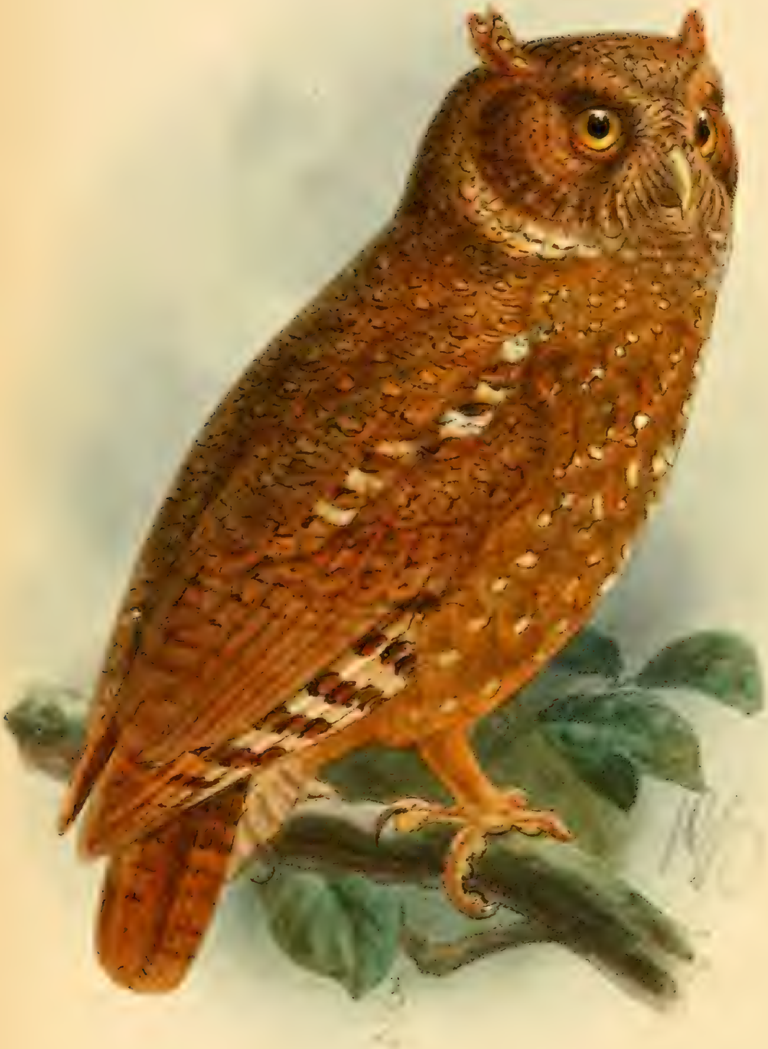
It may be a mere coincidence, but it is certain that the specimens of this species from the Gold Coast in the British Museum are far more rufous than those from Cameroon or the Congo, and they have blacker bars on the under surface. These light and dark birds represent apparently two phases of plumage in these Owls.

45. SCOPS LETTI.

Bubo letti Büttik. Notes Leyden Mus. xi. pp. 34, 115, 129, Taf. vi. (1889); id. Reiseb. Liberia, App. p. 173 (1890).
Scops letti Sharpe, Bull. B. O. C. x. p. lv (1900).
Lophostrix letti Reichenow, Vög. Afrikas, i. p. 663 (1901).

Imm. Efulen, Aug. 28, 1902. "Akuñ."
♀ ad. „ May 22, 1903.
♂ ♀. „ July 24, 1903.

These examples resemble the specimen sent by Mr. Bates from the Rio Benito in the French Congo-district, but have



J. G. Keulemans del. et lith.

Mintern Bros. imp.

PISORHINA HOLERYTHRA.

the blackish bars on the quills and tail-feathers somewhat more pronounced.

The females seem to be browner and less rufous than the males, and to have bars on the hind-neck and mantle. All the birds shew a trace of brown vermiculation on the black-streaked breast-feathers.

46. PISORHINA HOLERYTHRA. (Plate II.)

Scops holerythra Sharpe, Bull. B. O. C. xii. p. 3 (1901); id. Ibis, 1902, p. 92.

Pisorhina badia Reichenow, Orn. MB. xi. p. 41 (1903).

♂ ad. Efulen, Jan. 3, 1903. "So'ole akuñ."

This specimen agrees with Dr. Reichenow's description of *P. badia*, and has white shoulder-spots, which were wanting in the type-specimen of my *Scops holerythra*. I think that, notwithstanding the difference, these two species are identical, and that the cinnamon under-surface with its white arrow-head spots renders it sufficiently distinct from *P. icterorhyncha* of Shelley.

47. SYRNIUM NUCHALE.

Syrnium nuchale Sharpe, Cat. B. ii. p. 65; Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 41 (1895).

♀ juv. Efulen, Nov. 19, 1901.
♂. „ March 20, 1902. "Akuñ."
♂. „ March 25, 1902.
♂. „ Oct. 23, 1902.
♀. „ May 30, 1903.
♂. „ June 10, 1903.

There seems to be a distinct dark phase of this bird, not connected with sex, as we have females in both plumages from Mr. Bates. The reddish phase seems to be the commoner of the two, as he has sent only two examples of the dark form.

Mr. Bates had already sent a specimen of this Wood-Owl from the Benito River in the French Congo-district, where the bird is called "Akuñ." The specimens from Cameroon seem to be identical with those from other parts of West Africa, such as the Gold Coast and the Congo.

48. Glaucidium sjoestedti.

Glaucidium sjöstedti Reichen. Orn. MB. 1893, p. 65; Sjöst. K. Sv. Vet.-Akad. Handl. 27. p. 42, Taf. ii. (1895); Sharpe, Hand-l. B. i. p. 299 (1899).

♂ ad. et juv.	Efulen,	Jan. 17–24, 1902.	"Fôbelebele."
♂ ad.	„	Feb. 1, 1902.	"Akuñ."
♂ ad.	„	March 17, 1902.	

Both young and old individuals of this striking species are in the collection. A sign of immaturity appears in the more or less concealed ochreous patches on the scapulars, the older birds being comparatively uniform. The cross-bars on the breast are also narrower and fewer in number. The nestling resembles the adults, but is duller chestnut on the back.

This species is nearly allied to *G. castanopterum*, but is cinnamon-buff underneath with rufous cross-bars, the pectoral region being crossed by bars of a different colour to those on the head and neck. In *G. castanopterum* they are all of the same colour on the head, neck, and upper breast.

My position, therefore, for this species in the 'Hand-list' is wrong. The female is apparently yet unknown, as all Mr. Bates's examples are males.

[To be continued.]

VIII.—*On some rare or unfigured Eggs of Palæarctic Birds.*

By H. E. Dresser, F.Z.S., M.B.O.U., &c.

(Plate III.)

In continuation of former papers on the same subject I beg leave to offer to the Members of the B.O.U. some further notes on, and illustrations of, rare or unfigured eggs of Birds of the Palæarctic Region*.

(1) Hodgsonius phœnicuroides. Hodgson's Shortwing. (Pl. III. fig. 2.)

Hodgsonius phœnicuroides Dresser, Man. Pal. B. p. 59.

Mr. Davidson appears to have been the first to obtain authentic eggs of this bird, and he has published some excellent notes on its breeding-habits (Ibis, 1898, pp. 11, 12). The egg figured is one out of a full clutch of three taken by that gentleman at Sonamurg, Kashmir, on the 15th of June, 1896. The nests, he says, were placed in low bushes, generally about a foot or eighteen inches from the ground, and not in the least concealed. They were thick deep cups, made of rough grass, lined with a few dead leaves, some fine grass, grass-roots, and a few feathers, and were most untidy structures; the full clutches of eggs were three in number and the eggs themselves varied somewhat in size, but averaged about 0·89 by 0·63 inch.

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* For my previous papers, see 'Ibis,' 1901, p. 445; 1902, p. 177; and 1903, pp. 88, 404.

(2) CARPODACUS SEVERTZOVI. Himalayan Rose-finch. (Pl. III. figs. 1, 3.)

Carpodacus severtzovi Dress. Man. Pal. B. p. 319.

This Rose-finch was found by Major W. Corbett breeding near a village called Shushul, about six miles from the Pangong Lake in Ladak, and close to the frontier of Tibet, at an elevation of 14,000 feet. Two nests were taken, containing three and two fresh eggs respectively, on the 31st of July and the 4th of August, 1902. These nests, Major Corbett informs me, "were placed in the forks of thin willow trees about twenty feet from the ground, while a third nest was placed in a gorse bush about three feet from the ground. The nest of this Finch is constructed of sticks, grass, and wool, lined with hair; that found in the gorse bush was rather more compact than the two in the willows, being two and a half inches in diameter of cup and two inches deep. I shot the hen bird off the first nest which I found on the 31st of July, but did not secure the male. However, I discovered another nest in the same patch of willows on which the hen was sitting. I did not shoot her, but obtained the male close by. On visiting this nest again on the 4th of August the female was still sitting, but I did not see any male bird on this occasion. This Rose-finch did not appear to be common in Ladak, as I did not observe it in any other place."

Major Corbett brought me the two birds, which I compared with Dr. Sharpe's *Carpodacus severtzovi*, and with *Carpodacus rubicilla* from the Caucasus. I found them intermediate between these two geographical forms, the male having the under parts as in *C. rubicilla*, but the upper parts paler and less tinged with red, though much darker than in *C. severtzovi*.

The eggs in the two clutches vary very little, so I have figured one egg out of each clutch.

(3) Erythrospiza sanguinea. Crimson-winged Bullfinch. (Pl. III. fig. 5.)

Erythrospiza sanguinea Dress. Man. Pal. B. p. 328.

So far as I can ascertain, the example here figured is the only authentic egg of this species known to exist in any collection. It was taken by Mr. J. H. Cochrane, who accompanied Canon Tristram on his journey to the Holy Land, at the Cedars on Mount Lebanon, on the 24th of May, 1864, and was handed over to me by Mr. Cochrane when he gave up collecting eggs. The female bird was obtained at the nest, and passed into Canon Tristram's collection. The nest was placed in a tree, and contained only the one egg. Canon Tristram says that it was not unlike that of a Greenfinch, but does not give any further description.

(4) Bucanetes obsoletus. Persian Desert-Bullfinch. (Pl. III. figs. 4, 6.)

Bucanetes obsoletus Dress. Man. Pal. B. p. 330.

An egg of this species has been figured by Mr. Nehrkorn (Katalog Eiersamml. pl. iv. fig. 49), but it was a very pale specimen, and as the eggs vary from pure white and bluish white to pale blue I have thought it advisable to figure two, to shew the different phases. Both these eggs were taken by Mr. N. Zarudny, at Nachduin in Transcaspia, on the 3rd of June, 1892. One egg in my collection, also taken by Mr. Zarudny, at Dort Kuiu in Turkestan, on the 11th of May, 1886, is pure white. The nests of this Bullfinch were found to be placed in bushes or on a tree, and were constructed of twigs and fine fibres, lined with hair, fine vegetable fibres, cotton, or wool. The number of eggs in each clutch varied from four to six.

(5) EMBERIZA LUTEOLA. Red-headed Bunting. (Pl. III. figs. 7, 8, 9.)

Emberiza luteola Dress. Man. Pal. B. p. 347.

The eggs of this Bunting have been known for some time, but do not appear to have been figured. The bird breeds in Central Asia, and of the three eggs figured one was taken at Durjangjar in Transcaspia on the 11th of May, 1892, and two at Askabad on the 14th of May. The nest of this Bunting is placed in a low bush or on the ground, and is constructed of dried grass, plant-stems, or shreds of bark, and lined with hair, the number of eggs varying from three to four.

(6) EMBERIZA SPODOCEPHALA. Black-faced Bunting. (Pl. III. figs. 10, 12.)

Emberiza spodocephala Dress. Man. Pal. B. p. 350.

The eggs of this Bunting were first described by von Middendorff (Sib. Reise, Vögel, p. 143, Taf. xiii. fig. 8), but the illustration of them is very unsatisfactory, so that I have thought it advisable to figure two specimens, which were taken by Dr. Dybowski at Darasun in Dauria. According to von Middendorff, fresh eggs of this bird were taken on the 14th of June. The nest is placed in a low bush, or sometimes on the ground, and is constructed of grass-bents and plant-stems, lined with hair. The number of eggs in a clutch varies from four to six, and a series in my collection average in size 0·72 by 0·56 inch.

(7) EMBERIZA CINEREA. Cinereous Bunting. (Pl. III. fig. 11.)

Emberiza cinerea Dress. Man. Pal. B. p. 352.

So far as I can ascertain, only one well-authenticated nest and eggs of this bird have been obtained up to the present time. These were taken by one of Dr. Th. Krüper's collectors at Burnabat, near Smyrna, on the 10th of May, 1889. I received from Dr. Krüper the egg now figured, and one other, which is now in the collection of Professor Newton at Cambridge. The nest and the remaining eggs are in the Museum at Athens.

(8) Emberiza stewarti. White-capped Bunting. (Pl. III. fig. 14.)

Emberiza stewarti Dress. Man. Pal. B. p. 367.

This Bunting breeds in Afghanistan, Kashmir, and on the hills about Murree, but I cannot ascertain that the eggs have ever been figured. Major Wardlaw Ramsay found the bird breeding in Afghanistan towards the end of April, and in May and June. The nests were placed under roots on sloping banks or hill-sides, and were composed entirely of dried grass; the eggs were generally four in number, but occasionally five. I have figured one egg out of a clutch of two taken by Major Wardlaw Ramsay in Afghanistan on the 28th of May, 1879, which differ but little from each other. In size the eggs of this Bunting average about 0·78 by 0·59 inch.

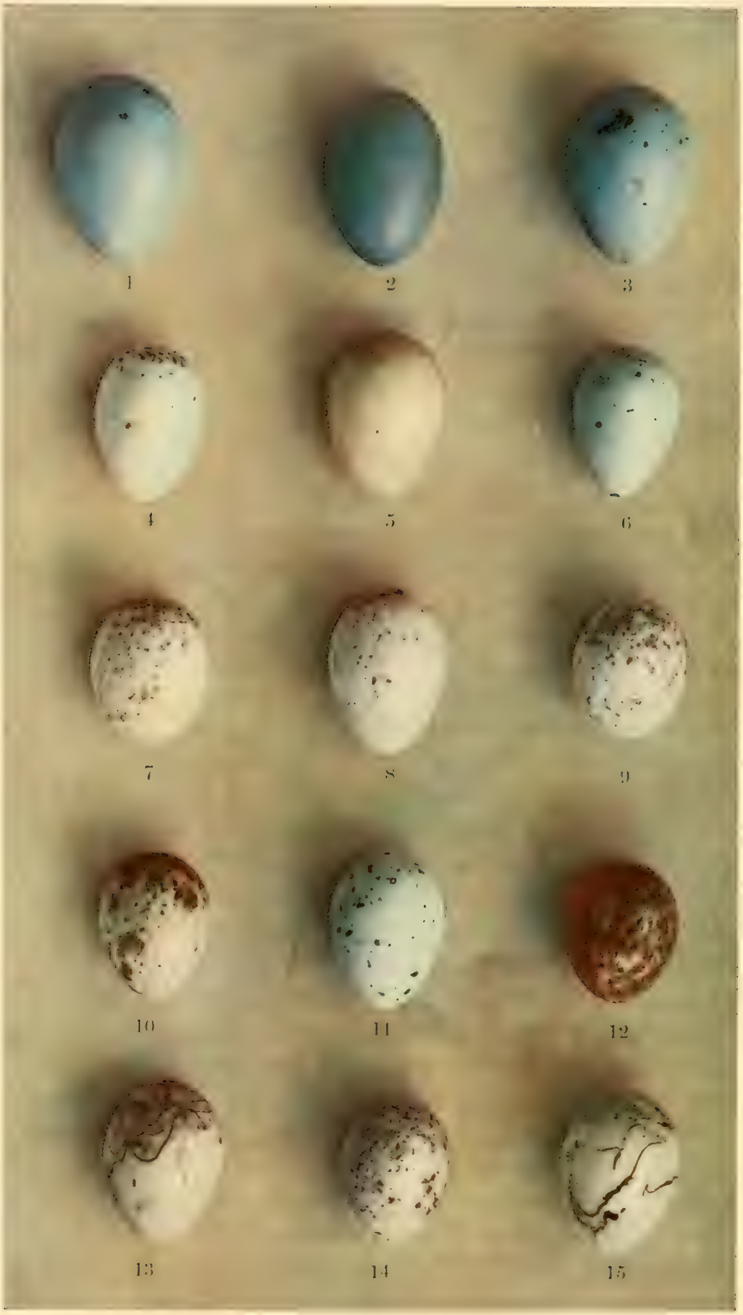
(9) Emberiza stracheyi. Eastern Meadow-Bunting. (Pl. III. figs. 13, 15.)

Emberiza stracheyi Dress. Man. Pal. B. p. 368.

Although this Eastern representative of the European Meadow-Bunting (*E. cia*) breeds commonly in the Himalayas, at altitudes of from 4000 to 9000 feet, and its nesting-habits, nest, and eggs were well described by Mr. Oates ('Nests and Eggs of Indian Birds,' ii. pp. 168–170), the eggs have not yet been figured; and as they differ slightly from those of *E. cia* I have thought it advisable to figure two which were taken by Mr. J. Davidson at Gund, Kashmir, on the 29th of May, 1876. The nest of this Bunting is said to be always placed on the ground, and is externally constructed of grass-stems and lined with finer stems and a few hairs or moss-roots, the number of eggs varying from three to five.

(10) Muscicapula superciliaris. White-breasted Blue Flycatcher.

Muscicapula superciliaris Sharpe, Cat. B. iv. p. 203.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EGGS OF PALÆARCTIC BIRDS.

Major Corbett has sent me the following notes, together with specimens of the birds, which, although the Blue Flycatcher has not yet been recorded as a Palæarctic species, may be included in the present article:—"I found a nest containing three eggs of the Blue Flycatcher at Ranikhot, Kumaon, Western Himalayas, at an elevation of from 6000 to 7000 feet, on the 31st of May. The nest was cup-shaped, constructed of rootlets and grass, and placed on a ledge in a steep bank, and the eggs were slightly incubated."

The Major sent me eggs of this Flycatcher along with the parent bird. The eggs resemble those of *Muscicapa parva* in coloration, but are very small, scarcely larger than those of the Golden-crested Wren.

Major Corbett also sends me the following notes:—

(11) SERINUS PUSILLUS. Red-fronted Finch.

Serinus pusillus Dress. Man. Pal. B. p. 282.

"I first saw these birds in Kashmir on the 25th of June, but subsequently in Ladak. They were mostly in small flocks, and I could not succeed in finding a nest."

(12) LEUCOSTICTE BRANDTI. Brandt's Ground-Linnet.

Leucosticte brandti Dress. Man. Pal. B. p. 303.

"At the end of July and in August these birds were common at Chang Chenmo at from 12,000 to 15,000 feet elevation, frequenting grassy places near streams; they were generally in small flocks, but I saw some in pairs. In a female which I shot the ovary was small, the crop was full of small green seeds. This was one of the very few species of birds that I observed in Chang Chenmo."

EXPLANATION OF PLATE III.

Eggs of the following species:—

Fig. 1. *Carpodacus severtzovi*, p. 107.
„ 2. *Hodgsonius phœnicuroides*, p. 106.
„ 3. *Carpodacus severtzovi*, p. 107.
„ 4. *Bucanetes obsoletus*, p. 108.
„ 5. *Erythrospiza sanguinea*, p. 108.
„ 6. *Bucanetes obsoletus*, p. 108.

Fig. 7–9. *Emberiza luteola*, p. 109.
„ 10. —— *spodocephala*, p. 109.
„ 11. —— *cinerea*, p. 109.
„ 12. —— *spodocephala*, p. 109.
„ 13. —— *stracheyi*, p. 110.
„ 14. —— *stewarti*, p. 110.
„ 15. —— *stracheyi*, p. 110.

IX.—*Studies in Bird-migration.* II. *The Results of Observations made at the Kentish Knock Lightship in the Autumn of* 1903. By William Eagle Clarke, F.R.S.E., F.L.S.

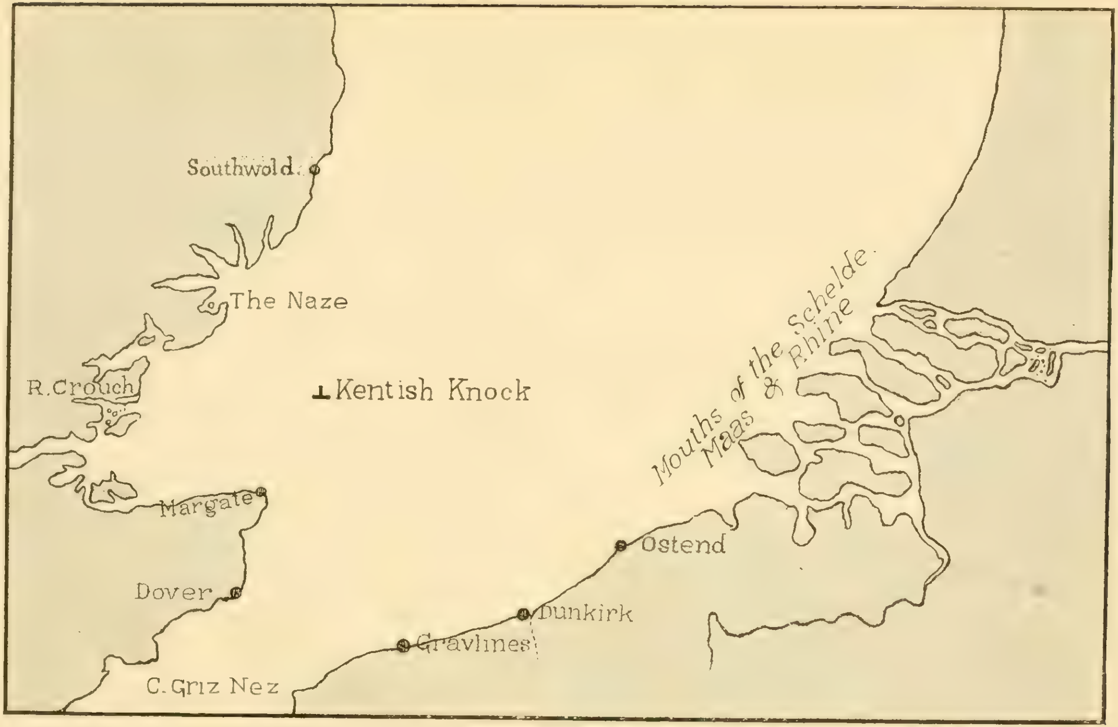
(Plate IV.)

Among the most interesting of the varied movements of birds observed in the British Isles are those remarkable intermigrations which take place in spring and autumn between the south-eastern coast of England and the opposite shores of the Continent, and mainly come under notice at the numerous lightships stationed between the mouth of the Humber and the Straits of Dover.

If not actually a discovery resulting from the investigations of the Migration Committee appointed by the British Association, it is assuredly due to the labours of that body, and especially those of the late Mr. John Cordeaux, its Secretary, that attention was first prominently drawn to these important flights across the southern waters of the North Sea. To those investigations we owe most of our present knowledge regarding such movements.

During the preparation of the "Digest of the Observations on the Migrations of Birds made at Lighthouses and Lightships, 1880–1887," it became evident to me that much remained to be learned concerning these movements and the various conditions under which they were performed, and I conceived the idea of undertaking some researches regarding them. To accomplish this, however, it was essential that I should spend some weeks on one of the lightships—a course which demanded some consideration, since life on one of these floating observatories presents discomforts which are peculiarly its own. Encouraged, however, by the

Ibis 1904, Pl. IV


Southwold
The Naze
R. Crouch
Kentish Knock
Margate
Dover
C. Griz Nez
Gravlines
Dunkirk
Ostend
Mouths of the Schelde
Maas & Rhine

Bale & Danielsson Ltd

MAP SHOWING THE POSITION OF THE KENTISH KNOCK LIGHTSHIP.

experience gained at the Eddystone Lighthouse in the autumn of 1901, I decided to make the venture, and an application was forwarded for me by the Royal Society to the Trinity House for permission to spend a month during the past autumn on one of the Corporation's lightships in the North Sea. This privilege was graciously granted, and every facility was offered for visiting any vessel that might be selected.

The selection of a suitable station demanded careful consideration, and I finally decided upon the Kentish Knock Lightship. This vessel appeared to me to lie at or near the centre of the migratory stream that I desired to investigate, and its remote situation out of sight of land to afford an excellent opportunity for witnessing the various movements, and the conditions under which they were performed, free from the influences which might prevail at stations nearer to our shores; lastly, the character of its light seemed to be especially adapted for attracting the migrants which might pass in the night.

The geographical position of the lightship will be best realised by a reference to the accompanying map (Plate IV.) which shews its situation in relation both to the English shores and those of the Continent. It is stationed in latitude 51° 38′ 50″ N., and in longitude 1° 39′ 55″ E., lying 21 miles N.E. by N. of Margate, and 21·5 miles S.E. of the Naze, which are respectively the nearest points of land, while it is moored two miles east of the extensive sand from which it takes its name—a sand entirely submerged at all states of the tide. The following table (p. 114) affords some further information regarding its geographical relations.

The vessel is equipped with a white revolving light, throwing out three beams each of 12,000 candle-power, and making a complete revolution in three minutes. As it lies in the direct course of all the east-coast traffic passing north and south *viâ* English Channel, it is furnished with an extremely powerful siren for use in times of fog or haze.

Life on a lightship is undoubtedly one of considerable hardship and discomfort. It is the life of a seaman spent

Direction from Kentish Knock.	Points struck on the English and Continental Coasts.	Miles from Kentish Knock.
North.	A little south of Southwold on the Suffolk coast	49
N.N.W.	Mouth of River Deben on the Essex coast	42
N.W.	The Naze on the Essex coast	21·5
West.	S.E. coast of Essex near the mouth of the River Crouch	31
S.W.	North coast of Kent near Reculver..	28
S.S.W.	East coast of Kent................	21
South.	North coast of France a little E. of Cape Gris Nez	53
S.S.E.	Gravelines, on the N. coast of France	48·5
S.E.	Belgian coast near to the frontier of France.......................	56
East.	Mouth of the East Schelde, coast of Holland	88

under the most trying conditions, namely, one whose ship is ever the sport of the winds and waves. I enjoyed the best of health while on board, and the almost incessant watchfulness necessary for the successful prosecution of my work rendered my sojourn free from that tediousness which is usually inseparable from residence in such vessels.

I sailed from Blackwall in the Trinity tender 'Vestal' on the morning of the 15th of September, and, after visiting the various lightships and "pile" lighthouses within the Thames Estuary, and the outlying Galloper Lightship, was placed on board the Kentish Knock Lightship at noon on the 17th of September, and remained there until the 18th of October.

I found the bird-migration at the Kentish Knock of a very varied and complex nature, in which respect it is probably not surpassed by any other station on the British coasts. The ship lies about the centre of a broad junction where many lines of flight cross. Here, in addition to (1) the extensive movements (I speak of those of the autumn, the spring migrations being in an opposite direction) of Immigrants from E. to W., there are (2) movements of a similar nature from S.E. to N.W., and (3) of Birds of Passage along both these lines of flight; while (4) Emigrants pass from N. to S.S.W., and (5) from N.W. to S.E.; and, lastly, (6) many Birds of Passage also proceed from N. to S.S.W. There appeared to be no Continental migration whatever from points north of east. It will thus be realised that much "cross migration" takes place, and this, too, on the part of identical species, sometimes performed, strange to say, on the same day and even at the same hour. Another feature of importance is that at the Kentish Knock and neighbouring lightships the day movements equal if they do not surpass in magnitude those observed during the night, whereas at other stations around our coasts the nocturnal movements much exceed in extent those occurring during the day.

As at the Eddystone in 1901, I found it extremely difficult to detect small birds during the day-time. The vast majority—nearly all of them, in fact—fly close to the water, and the waves, always in motion, form a most unsatisfactory background against which to pick up migrants, unless they are passing in large flocks. The rougher the sea the more difficult is the task of observation, and the higher the wind the more closely do the birds hug the surface of the sea; thus, except during a dead calm, many migrants escape notice in spite of the utmost watchfulness on the part of the observer.

In connection with the movements witnessed at such isolated stations, it must be remembered that these observatories are mere specks in the open sea, and the marvel is that one sees so much, especially during the day-time. At night it is somewhat different, for then, under certain atmospheric conditions, numbers of birds are attracted to the lantern—many of them, no doubt, being allured from afar.

In the preparation of these results I have grouped the observations under the particular set of movements or problems to which they relate, reserving certain information to be dealt with under the various species.

The first migratory movements to come under notice were those proceeding in a southerly direction. I was much gratified to find that, although at such an outlying station, the lightship lay in the course of the southerly passage of numerous summer-birds departing either from the more northern Counties of Great Britain, or from North-western Europe *viâ* our eastern seaboard, or, again, from both these areas. Many of these migrants from the north while skirting our shores find themselves far to the eastward on reaching the coast of Suffolk, and on leaving that county proceed over sea towards the east coast of Kent, a course which carries them near to the Kentish Knock, where not a few of them were observed coming from the N. and proceeding to the S.S.W.

Numbers of such emigrants passed between the 18th and 29th of September—a genial spell of weather, with much sunshine and light breezes, following a particularly cold and stormy period for the time of the year. Between these dates many Wheatears, Redstarts, Skylarks, Pied Flycatchers, and Tree-Pipits flitted by; and fewer Meadow-Pipits, Starlings, Goldcrests, Pied Wagtails, Yellow Wagtails, and Swallows, all *singly* except the Skylarks and Swallows, which passed in small parties. These migrants not unfrequently followed each other in quick succession, but there were usually greater or lesser intervals between their appearances. Not a few alighted on the ship, most of them appearing somewhat mysteriously, for, as a rule, they escaped notice until they perched upon the rail or rigging. Some of these visitors were both tired and hungry and spent a considerable time with us, busying themselves in an active search for insects, of which we had numbers on board at the time*. Others remained for a few moments only and then took their departure. In all cases the birds on leaving the ship winged their way towards the coast of Kent†.

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* For an account of some of the insects observed on the Kentish Knock Lightship, see the 'Entomologist's Monthly Magazine' for December 1903, p. 289.

† Sept. 19th was a great day for migrants (probably most of them

No doubt many birds of the species named and others passed without coming under notice, for a very slight deviation to the east or west would carry them beyond the range of observation. Among the rarer species observed were an Icterine Warbler and a Blue-headed Wagtail.

These southerly movements were by no means confined to the day-time, but were in progress during much of the night, and on each occasion on which the conditions were suitable for their observation during the period named they came under notice. All the species already named (excepting the Wagtails), with the addition of Common Whitethroats, Spotted Flycatchers, Thrushes, and Blackbirds, were observed around the ship, sometimes for several hours and in great numbers; and at 3 A.M. on the 25th September a Richard's Pipit was captured at the lantern. Common Sandpipers were heard passing on one occasion, but did not shew themselves in the rays.

I have not thought it necessary, in dealing with these September emigratory and passage movements, to treat of the night-movements apart from those witnessed during the day, for there can be no doubt as to their precise nature.

A Phalarope, probably *Phalaropus hyperboreus*, was observed on the water some little distance from the ship on the 13th of September. It was one of the very few Limicoline birds that came under observation, and was the only one detected during the day-time.

These movements of summer-birds departing southwards were prolonged beyond the limits of September. Thus Wheatears and Chiffchaffs were observed on the 3rd of October; Starlings, Chaffinches, and Swallows passed on the 13th, Sand-Martins on the 15th, and Swallows again on the 16th.

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immigrants from N.W. Europe) on the coasts of Lincolnshire and Norfolk where, as I am informed by Mr. Gurney, Redstarts, Pied Flycatchers, Redbreasts, Goldcrests, Ring-Ouzels, Lesser Whitethroats, Bluethroats, Blackcaps, and Grasshopper Warblers occurred. On the same day Redstarts, Pied Flycatchers, Wheatears, Willow-Warblers, and Tree-Pipits were passing S.S.W. during the afternoon at the Kentish Knock.

Here, too, may be mentioned the Rock-Pipits observed on the 23rd of September and on the 8th and 12th of October.

The day-movements were chiefly observed during the forenoon, but on some occasions were continued until sunset; while the hour and duration of the nocturnal visits entirely depended upon the advent and prevalence of weather conditions suitable for bringing night migration under observation.

Continuing the observations relating to emigration, I have next to notice a series of movements from the N.W. towards the S.E., that is to say, from the Essex coast at or about the Naze to the Belgian coast near the French frontier—a line of migration which seems to have been overlooked, but one to which I have recently drawn attention when treating of the spring-migrations, in the reverse direction, of the Rook and Starling (see Rep. Brit. Assoc., Southport Meeting, 1903). The emigrations observed along this route, though marked, were confined to a few species, and it formed the main line across this part of the North Sea by which the House-Martin, Meadow-Pipit, and Pied Wagtail sought the south, and was also a minor route for Wheatears, Starlings, and Skylarks. Considerable numbers of the three first-named species traversed it on the 7th, 9th, and 14th of October, days on which there was little or no migration along other lines of flight.

We now approach the east to west flights, which are certainly the most interesting of the migrations observed on this section of our coast-line, and are also the main diurnal movements regularly witnessed on the British shores.

The Kentish Knock Lightship, I found, occupied a central position amid this great feathered stream, since the vast majority (90 per cent. or more) of these migrants were moving direct from E. to W. On the Norfolk coast their chief line of flight is to the N.W., on the Lincolnshire coast to the N.N.W., while on the east coast of Kent it is to both W. and S.W. On certain days, when general movements are in progress, these flights have often been known to cover the entire coast-line between the Humber and the Straits of Dover.

On arriving on our shores many of these immigrants proceed inland and settle down for the winter, while others traverse the south coast and cross St. George's Channel to winter in Ireland; others, again, cross the English Channel *en route* for Southern Europe.

Owing, perhaps, to the unexpected spell of summer weather that characterised the latter half of September and to the high and uniform temperatures which prevailed then and during the first week of October, the east to west movements of the autumn of 1903 were very slightly in evidence in the earlier days of my residence on the lightship. During the period indicated only a few Skylarks, Tree-Sparrows, Swallows, Meadow-Pipits, and single Starlings were seen. The night movements of Waders and other Limicoline species, however, appeared to be of more importance; but, alas! only the notes of Ring-Plovers and Lapwings could be identified among the many voices that reached me as the migrants sped westwards under the cover of darkness.

The first extensive movement immediately followed a decided fall in temperature on the Continent. This commenced at 9 A.M. on October 8th, and from that hour until 2 P.M. flock after flock of Skylarks and Chaffinches and small parties of Tree-Sparrows and Meadow-Pipits followed each other in rapid succession. Starlings, which had hitherto only been noted singly, also passed in small troops. It was an important morning for E. to W. migration, and not only did hundreds of birds pass quite close to the ship, but far greater numbers, in fact many thousands, were observed pursuing a like course at distances too great to render their identification certain, especially amid the dull weather and heavy rain which prevailed, and from the fact that all were flying close to the surface of the sea.

On October 10th there was another considerable fall in temperature, and our thermometer registered 10° lower than on any previous occasion since my residence on the lightship; this was followed on the 11th by the greatest diurnal movement of birds that I have ever witnessed. It set in at 8 A.M. with a conspicuous passage of Starlings, Skylarks, and Tree-Sparrows. By midday it had assumed the nature of a "rush," which was maintained without a break until 4 P.M. It was a remarkable movement in many ways. Skylarks, Starlings, Chaffinches, and Tree-Sparrows not only passed westwards in continuous flocks, but many of these companies consisted of hundreds of individuals. So numerous were the Starlings composing some of these bands that when first observed in the distance they resembled dark clouds, and formed a conspicuous contrast to the leaden, white-crested, billows. The elements contributed to the singularity of the scene. The weather, which had been fine up to 9 A.M., rapidly changed, and by noon it had become, in nautical parlance, a "dirty day"—a character which it maintained to the end. The rain, which fell steadily at first, became a downpour, and finally torrential. Indeed, so rain-laden did the atmosphere become that it was necessary to sound the fog-horn, the hideous yells of which added a weird accompaniment not out of harmony with a scene which, apart from its interest to a naturalist, was dismal in the extreme. The wind, too, had been gradually rising, and by 3 P.M. had increased to a "strong breeze" with a velocity of 34 miles an hour. There were squalls at intervals which lashed the rain against one's face with such violence as to cause the skin to tingle for a considerable time. How the migrants braved such a passage was truly surprising. How they escaped becoming waterlogged in such a deluge of wind-driven rain was a mystery. Yet on they sped, hour after hour, never deviating for a moment from their course, and hugging the very surface of the waves, as if to avoid as much as possible the effects of the high beam wind. It was surely migration under the maximum of discomfort and hardship, indeed under conditions that approached the very verge of disaster for the immigrants.

It is probable that the birds would not have quitted the Continent had these later conditions prevailed at the hour of their departure. That they did not do so is made clear by a reference to the "Daily Weather Chart" issued by the Meteorological Office, and also by the observations registered at the lightship. The fact is that the weather changed rapidly under a falling barometer and a southerly wind; and thus, although the migrants set out under favourable conditions for the passage, they were overtaken while *en route* by the changes which became more and more unfavourable as they neared the English coast, and at the same time approached more nearly the storm-centre which lay off our own western shores. Thus were they trapped, and had to make the best they could of a bad passage.

There were also westward flights of considerable magnitude on the part of the same species on the following day, October 12th, and again on the 15th. These were performed under conditions which were not unfavourable to the migrants. On the latter date some remarkable cross-migrations were observed on the part of Skylarks and Chaffinches, flocks of which were passing to both S.S.W. and W., sometimes simultaneously, during the morning.

On the 17th of October Skylarks and Starlings were passing W. at intervals during the day, in spite of a somewhat high northerly wind. Late in the afternoon the first Rooks and Jackdaws appeared in small numbers, as they did also at the Galloper Lightship, a vessel moored over thirteen miles to the E.N.E. of us. The advent of these birds was of great interest to me, for I had been expecting them for some time. Several individuals of each species appeared at 4.30 P.M. and alighted on the ship, but did not remain long ere they departed westward. At 6.30 P.M., in continuance, no doubt, of the movement referred to, several Rooks and Jackdaws appeared at the lantern and flew around for some hours, indeed until daybreak the following morning, one adult Rook and two Jackdaws having been captured. A great number of Starlings, Skylarks, Chaffinches, Mistle-Thrushes, Song-Thrushes, Goldcrests, Meadow-Pipits, Wagtails, and doubtless other Passerines, were also present at the time.

The 18th added some interesting experiences. The "relief" at the Kentish Knock Lightship was effected by the Trinity Yacht 'Irene' at 9 A.M. A great westerly movement was in full swing at the time, under weather conditions which were eminently favourable to the migrants—the usual species, namely Starlings, Skylarks, Chaffinches, and Tree-Sparrows. At 10.30 A.M. we bid adieu to the Lightship and steamed south-west towards the Kentish coast, on nearing which our course was changed and we proceeded west in the direction of the Thames Estuary, and finally to the mouth of the river, where, at 3 P.M., I was put ashore at Southend.

During the entire passage of four and a half hours—the distance travelled being close upon fifty miles—we were at first crossing the course of, and afterwards running parallel to, the flight of continuous flocks of Starlings and Skylarks, and of fewer Chaffinches and Tree-Sparrows, all proceeding westwards, and all flying low over the calmest of seas in the finest of weather.

These flocks, especially those of the two first-named species, were never absent from view, and we must have encountered tens of thousands of the birds during the passage. It was a revelation even to one familiar with the voluminous records of such movements chronicled in the migration schedules; but it is one thing to study in cold blood, as it were, masses of statistics, and quite another to witness these bird-streams actually flowing before one unceasingly hour after hour. It was the marvellous continuity and apparently inexhaustible nature of these movements that was a revelation to me, both on this and other occasions.

The flocks ceased to be so numerous as we approached the mouth of the Thames proper, but groups of Starlings and Skylarks were still moving westwards when I left the 'Irene,' and at 4 P.M. Skylarks were trooping past in small parties at Southend.

A Mistle-Thrush, observed flying somewhat high and to the west soon after we left the Kentish Knock, was the only Thrush that came under my notice during the daytime.

In addition to the species named as participating in the great diurnal movements I have endeavoured to describe, Swallows and Martins in considerable and Wheatears in lesser numbers were also observed moving westwards. The fact that these species proceed along this route in autumn is the clearest possible evidence, if such were necessary, that it is also a true passage fly-line for emigrants proceeding from the Continent to their winter-quarters south of the British Isles. These birds of passage after arriving in South-eastern England sooner or later take their departure from our southern shores, *en route* for Africa in some cases and South-western Europe in others. On some occasions small numbers of all the species mentioned as migrating from E. to W. were observed proceeding from S.E. to N.W., but this was exceptional and the movements were never important.

It will have been noticed that the species recorded as participating in these great E. to W. movements are comparatively few in number. This, I think, may be accounted for by the fact that at present our knowledge regarding them is practically confined to what has been observed during the day-time. At the Eddystone, likewise, a few species only crossed the Channel by day, but in great variety at night. May not the same be the case at the Kentish Knock? I am inclined to think that we have here the true explanation of the situation. The phenomena of migration as witnessed at this station are, however, exceedingly complicated, as has already been stated, and it was found impossible to determine from actual observation whence came the birds that were so abundantly noticed during the hours of darkness. I shall return to this subject anon when discussing the night-movements.

The reason why the movements of these species are performed so largely during the day-time, instead of entirely at night as in the case of most over-sea migrations, appears to me to be due to the comparative shortness of the passage. The few hours necessary for its accomplishment would not interfere unduly with the time that must be devoted to the daily search for food—a most important consideration for all migrating birds.

It is a fact worthy of mention that each of the flocks, great and small, that came under observation during these great cross-sea movements was composed of a single species. I never saw a flock or party consisting of mixed species—each kind kept strictly to itself, even when passing simultaneously with others and moving in the same direction.

An interesting problem in connection with these E. to W. movements is: Whence came these vast hosts of autumn migrants—continental emigrants? I was somewhat uncertain when I prepared the "Digest" in 1896. Now I am decidedly of opinion that they are birds of Central (Western) European origin. I have little doubt of this from their lines of flight, from their species, &c. These migrants, I believe, quit the Dutch coast at the mouths of the Maas, Rhine, and Schelde, which they have reached mainly by pouring down the courses of these great rivers from inland districts, some of which lie far away. This would account for the vastness of their numbers.

The extraordinary persistency with which these hosts follow definite lines of flight during their passage across the North Sea is very remarkable and also bears out my view. Thus at lightships lying only a few miles off the coast, and well within sight of land, the birds are *not* recorded as making for the nearest points of the land, though they must be tired after their long passage, but as persistently following particular lines of flight. It is quite reasonable to suppose that the same definite course has been maintained during the entire journey; and if we trace such lines back to the shores of the Continent, we shall find, whether the observation be made off the coast of Lincolnshire or Kent, that they have their origin on that section of the coast of Holland which I have indicated.

The night-movements were of a varied and interesting nature and occasionally of considerable magnitude. Some of them were not difficult to interpret, while others were problematical.

I may say at once that, so far as direct observation was concerned, it was on all occasions quite impossible to tell from what quarter the birds approached the ship after darkness had set in. This I much regretted, for I was particularly wishful to ascertain whether the E. to W. movements were performed during the night as well as the day. I did ascertain beyond a doubt that Rooks, Jackdaws, Lapwings, Ring-Plovers, and a number of wading birds did move in this direction during the night-time, and I think that there is strong presumptive evidence that the great movement on the night of the 17th–18th of October was wholly, or in part, from E. to W.

The nocturnal passage southwards during the latter part of September has already been alluded to, and but little more remains to be said concerning it. On the night of the 18th of September and during the earliest hours of the 19th, Redstarts, Pied Flycatchers, Thrushes, and an adult male Kestrel—a somewhat unusual nocturnal migrant—were at and around the lantern, along with other species unidentified. This was the commencement of a movement southward which was in full swing all the following day.

Soon after midnight on Sept. 20th a large party of Skylarks appeared, accompanied by other small Passerines. A considerable number struck the lantern and fell into the sea, the wind being moderately strong and the ship riding with her beam to it.

At 8.45 P.M. on Sept. 22nd a number of Wheatears arrived and continued to fly around while the sky remained overcast.

On Sept. 25th between 1 and 4 A.M., during light rain, many Wheatears, Redstarts, Pied Flycatchers, Whitethroats, Willow-Warblers, Tree-Pipits, Skylarks, and a Richard's Pipit (all of which were killed at the lantern), doubtless with other species, were flying round the vessel, and great numbers struck the glass and were lost in the sea.

On Sept. 29th, between 2 and 5 A.M., Blackbirds (those killed being immature males), Redstarts, Pied Flycatchers, Wheatears, Goldcrests, and Skylarks were present in great numbers, and hundreds struck the lantern and fell overboard.

On October 3rd, from 1.30 to 4 A.M., Goldcrests, Mistle-Thrushes, Song-Thrushes, Blackbirds, Chiffchaffs, Meadow-Pipits, Wheatears, and others were flying round. The rays of light were not very brilliant, however, and comparatively few perished at the lantern.

The fortnight that followed was devoid of night-movements. There were days on which much E. to W. migration was witnessed, but the nights were birdless, so far as observation was concerned, for the weather conditions were not such as to render the lantern attractive to passing migrants, if such there were.

From 6.30 P.M. on the night of October 17th to 5 A.M. on the 18th, Starlings, Larks, Chaffinches, Jackdaws (a few), Rooks (a few), Mistle-Thrushes, Song-Thrushes, Wagtails, Goldcrests, Meadow-Pipits, and probably many other species were careering around the ship, and examples of those named were either killed or captured at the lantern. This was the most important of the night-movements witnessed, for some thousands of birds struck the lantern and fell overboard during the ten-and-a-half hours that it was observed. As to this movement, there is, I think, evidence in favour of its being, in part at least, an E. to W. migration; it commenced as soon as it was dark, and some of the species participating in it, notably the Rooks, Jackdaws, Chaffinches, Skylarks, and Starlings, had been observed moving in that direction down to within an hour or a little more of the first appearance of the birds at the lantern. Thus it may almost be regarded as a continuation of the flights witnessed during the day. The presence, too, of the Rook and the Jackdaw, and the entire absence of any essentially northern species, must be considered as favourable to this view.

These night-movements were very interesting to witness, and were novel to me, since they were seen from an entirely new standpoint—namely, from below. Of these new experiences, perhaps the one which impressed me most was that from the deck of a lightship one realised more fully the terrible loss of life that is involved by these nights at the lantern. Here one saw birds actually falling thickly around, and even heard them dropping into the water. Such scenes often lasted for hours—ten-and-a-half hours on the 17th–18th October,—and the sacrifice thus caused is simply appalling. Some of the victims, indeed the majority, were only stunned or slightly injured, and thus met with a miserable death at sea. Few fell on board, unless the night was still, and then chiefly those which struck the lantern with considerable force and fell below like stones.

Seen from the deck, the three beams from the lantern appeared to be thrown towards the surface of the surrounding waters at an angle of 45°. The birds—brilliant glistening objects—seemed to ascend, as it were, these streams of light by a series of short jerky flaps performed by wings which appeared to be only half spread for flight. Some of them paused when within a short distance of the lantern, and remaining almost stationary, sunned themselves in the radiance of the slowly passing beam. Others were bolder and approached the light more closely, but ere they reached it spread their tails like fans, as if to check at the last moment their perilous onward course, and then sheered off, returning in a moment or two to repeat the performance. This spreading of the tail was a pretty trait, especially in the Wheatear, with its black-and-white rectrices. Others, again, approached the light gently, and either fluttered against the glass, or, as was particularly the case with the Starling, perched on the iron framework of the lantern-windows and seemed to revel in the light. In this respect the Starling differed from the rest, and when one brilliant beam had passed, the bird craned its neck and appeared to gaze longingly towards that which was slowly approaching. Indeed, the actions of the Starling in particular shewed the birds under the spell of some overpowering fascination. A number of the visitors made their début with a wild dash for the light, and these, if they struck the glass direct, were killed outright; while if the contact was made obliquely they glanced off stunned and, slightly injured, descended with a curious zigzag flight which sometimes carried them some little distance ere they were lost amid the waves. The Rook cut the sorriest figure of all the migrants seeking the light. He, too, tried to obtain foothold on the frame of the lantern whereon to sit amid the blaze of light, but failed and flapped and struggled against the windows in a singularly clumsy fashion. Finally, to complete the scene, there was the singular effect produced by its central feature, namely, the great lantern, which, placed high up on the mast, swung slowly to and fro amid the glittering hosts that danced attendance upon its mystic charms.

On occasions when the rays were not particularly brilliant the migrants flew aimlessly around, passing from ray to ray, sometimes for many hours. It is extraordinary how long some birds will fly round a light without resting. As a good example may be mentioned the case of a Kestrel which appeared at 8 P.M. on the 18th of September, and careered around without a break until 1.30 A.M. on the 19th. This bird often came close up to the light, but checked itself by spreading its tail; and it also frequently flew to windward, and then dashed back over the lantern at a tremendous pace.

When the wind was somewhat high, the birds resorted almost entirely to the lee side of the ship, and approached the lantern head to wind.

Although some of the night-movements witnessed were of considerable magnitude and remarkably prolonged, yet the migrants, on the whole, were singularly silent—indeed, disappointingly so, for thus a useful aid to identification was denied me. A novel method for the capture of specimens for determination was adopted with success, namely, a sailor was stationed on the sloping roof of the lantern, where, armed with an angler's net, he captured the birds, like so many moths, as they streamed up the beams of light towards him. In this way many birds ranging from a Goldcrest to a Rook were secured for the purpose of identification.

The weather-conditions under which the rays from the lantern became conspicuous and attractive were identical with those I had noted at the Eddystone (see 'Ibis,' 1902,

p. 249), namely, the presence in the atmosphere of moisture not necessarily in the form of rain or haze, but actually present, though not visible, on dark starless nights. In order to put my views on this subject to a scientific test, I took with me to the lightship a hygrometer, with the object of ascertaining the actual percentage of humidity in the air on such occasions. I had not many chances of using the instrument, as either rain or haze was usually present, but on two suitable occasions I found the percentage to reach as high a figure as 86—a more pronounced result than I had anticipated.

There was hardly a single occasion during my visit on which the rays were brilliant and the birds absent; on the other hand, there was not a single instance of migrants visiting the light when the night was bright and starlight or the moon was visible.

The birds which appear at the lantern are, by some authorities, considered to be those that have lost their way, and hence make for the light in default of any other directive impulse. After my experiences at the Eddystone and the Kentish Knock, I am convinced that this is not the true explanation. I believe that the migrants are actually decoyed from or arrested on their course by the influence of the light itself. At the Eddystone the emigrants which I saw in such numbers had barely left the land behind them, and had not had time to get lost when they appeared at the lantern. Another important fact in support of my contention is that the birds never appear at the light-stations at night except when the rays are remarkable for their luminosity; and in this connection it is important to bear in mind that this brilliancy does not depend upon such a thickening of the atmosphere as would cause inconvenience to the birds during their passage, for I have seen them in great abundance at the lanterns when I could make out neighbouring lights that were ten miles or more distant. Another significant fact is that they do not seek stations having red or green lights. Such lanterns, I am informed by the keepers, are seldom if ever visited under any conditions, for, owing to the subdued nature of their lights, the rays never become sufficiently conspicuous to prove attractive. When the Galloper Lightship had white lights great numbers of birds were allured to its lanterns, but now that the light is red bird-visitors are unknown. If the birds were lost why should they seek a white light and avoid one that is red or green? That the migrants may and do become confused and finally lost after the excitement and fatigue occasioned by their attendance upon the lantern I can well believe.

There is, however, one very remarkable fact concerning these visitors to the lights to which I have never seen any allusion made, namely, that *they are practically all Passerines*! I have seen tens of thousands of migrants around the lanterns of the Eddystone and Kentish Knock stations, and all were Passerines except two, namely, a Storm-Petrel and a Kestrel*. And yet I have heard Waders and other birds passing during these stirring nights at the lantern, though beyond giving tongue they passed by unconcerned and invisible. How are we to account for this? Assuming that the migrants were lost on these occasions, why should Passeres go astray and the Limicolæ pursue their course? Or, as I should prefer to put it, why should the Passeres be allured to the light and not the Limicolæ? Can it be because the former—the most specialized of birds—are rendered by reason of their higher organization more susceptible to the mysterious influence of the light? I merely throw out this suggestion as a possible explanation. I know of no other.

As to the meteorological aspects of the migration-phenomena witnessed at the Kentish Knock, not much remains to be said, for frequent allusions have already been made to them when treating of particular movements. In dealing with this section of the subject, I have consulted a set of the "Daily Weather Reports," issued by the Meteorological

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* This is also borne out by the migration statistics from 1880 to the present year. Birds of other orders do appear, but their visits are few and far between.

Office, wherein are shown the conditions prevailing over the whole of the western half of Europe.

The main weather-feature for investigation was naturally that associated with the E. to W. movements. These I find did not set in fully until a decided fall in temperature took place in Western Central Europe, and this important factor was the precursor of each of the pronounced movements observed. Before such incentives to migration were experienced, unusually high temperatures had prevailed, and this was undoubtedly the reason why the movements prior to the 8th of October had been of such a straggling and feeble nature. These falls in temperature were not on all occasions experienced on our shores, and this again demonstrates the necessity for consulting the meteorological data at the place where such movements have their source.

During the great movements from E. to W. the direction of the wind varied from S.E. to N.N.W., and possessed no particular significance. The strongest wind prevailing when I observed migration in progress was on the 13th of October, when, with a westerly moderate gale blowing with a velocity of from 34 to 40 miles an hour, Swallows were proceeding in numbers to the S.S.W., and some House-Martins to the N.W.—no other species being on the move. Under like conditions on the 9th, Martins were the only migrants observed, and were moving from N.W. to S.E.

The weather-conditions under which the other movements were witnessed do not call for any special remarks, for my experiences were similar to those at the Eddystone, and supported the views already expressed in my previous "study" on the bearing of meteorology on bird-migration.

As at the Eddystone, whenever a number of individuals of a species were obtained during any movement they shewed a considerable range of variation in their wing-measurements, bearing out fully what I have previously said on this subject (see 'Ibis,' 1902, p. 267). As shewing how much individuality may enter into these measurements, it is of interest to note that in six Wheatears, all females in identical plumage, killed or captured on the early morning of September 25th, the range of wing varied from 3·62 to 3·88 inches. It may also be noted that of twenty-two Skylarks obtained on September 29th the wing-range was only from 3·78 to 4·35 for young and old males and females, the average being 4·07 inches; while of ten examples captured on the 17th–18th October it varied from 3·93 to 4·70 inches, the average being 4·3 inches.

The height at which birds fly when migrating is a subject on which much has been written, and the fact that they have been observed proceeding at considerable elevations has been advanced as an explanation of the mystery as to how birds find their way, especially when a considerable extent of sea has to be crossed. That some birds do fly at great heights, and that under certain conditions (which are at present unknown to us) it may be an advantage to them to do so, I will not for a moment deny, but I am convinced that it is not a necessity as a means of finding their way.

The birds observed crossing from E. to W. in the latitude of the Kentish Knock would have a flight of at least 120 miles to perform between the Continental and the English coasts. When observed at that lightship they had over one-fourth of their journey still before them, so that it was an excellent station for witnessing this and the various conditions under which the journey was performed. During all these movements, great and small, the migrants of every species flew close to the surface of the water under all conditions of weather. On certain occasions, notably on the 11th of October, the state of the atmosphere was such that it must have been quite impossible for them to see more than one, or at most two, hundred yards ahead; and yet under these conditions, when it might possibly have been an advantage to fly high, they sped onwards just skimming the crests of the waves, and never departing from a true east to west course. On fine clear days, with a light wind, these flights were performed in a precisely similar manner. Such facts as these, apart from many others, afford, I think, conclusive evidence that birds are endowed with a sense of direction which, under ordinary circumstances, seldom fails them.

The speed at which birds fly while actually on migration is another moot point on which I was able to obtain some information at this remote station in the North Sea. Speaking generally, the migrants pursued their way at the steady rate characteristic of their respective species. There was no hurry, but at the same time there was a business-like manner about them which was in keeping with the important event on hand. Certain species habitually fly faster than others: thus the flight of the Meadow-Pipit was slower than that of the other species observed; that of the Skylarks, Chaffinches, Wagtails, and others was decidedly faster; while that of the Starlings, Martins, and Swallows was the speediest of all.

I had an excellent opportunity for roughly gauging the speed of both Skylarks and Starlings on the 18th of October from the bridge of the 'Irene,' while running parallel with and in the same direction as the flight of these species. Flock after flock flitted alongside of the ship, and at my request the captain ascertained from the engine-room the precise number of revolutions our twin-screws were making per minute, which gave a speed of exactly eleven knots (12·6 miles) an hour. At this speed the Skylarks passed us with the greatest ease, and, as near as it was possible to estimate, were proceeding as fast again as the ship, or at a rate of about 25 miles an hour, but certainly not more. It was more difficult to say what the speed of the Starlings was, but they were travelling at least half as fast again as the Larks, and therefore at not less than from 35 to 40 miles an hour.

I was much struck with the small number of essentially marine birds that came under my notice at this pelagic station. The only Gulls that were fairly numerous were the Lesser Black-backed and the Kittiwake. The Great Black-backed

Gull was occasionally observed, but only a single Herring-Gull came under notice. Skuas, chiefly Richardson's and a few Pomatorhines, were frequently in attendance on the Gulls. I saw one Tern, an immature example of the common species. There were no Shearwaters, but I saw a single Fulmar. Gannets, all adults, were not uncommon as passing visitors. Common Scoters, Guillemots, and Razorbills were numerous along the edges of the sands, and were chiefly in evidence during the prevalence of strong westerly winds, when they sought our side of the banks—the easterly—for shelter and food. I also saw a few Red-throated Divers.

One of the crew of the lightship who has been on board for over a year and who, being a bird-fancier, knows all the small cage-birds well, informed me that he had never seen a Goldfinch, Linnet, or Redbreast on or about the vessel since he had been stationed there. He had seen two Greenfinches, which had arrived together during the spring.

The object of the following list is to afford in a concise manner some further information regarding each of the species observed; and also to give some idea of the various movements performed by them.

1. Turdus viscivorus. *Mistle-Thrush.*

Observed in some numbers at the lantern and around the ship on the early morning of Oct. 3rd, and again on the night of the 17th and in the early hours of the 18th, examples being captured on both occasions. One was flying high to the W. at 11 a.m. on the 18th.

2. Turdus musicus. *Song-Thrush.*

Numbers, probably emigrants, were flying around the ship between 2 and 4 a.m. on Sept. 18th and Oct. 3rd, some being killed on the latter date. Many were again present during the great night-movement of Oct. 17th-18th, when several were killed at the lantern.

3. Turdus merula. *Blackbird.*

Was observed between 2 and 4 a.m. on Sept. 29th and

Oct. 3rd, along with other species, which were probably moving south. On the former date two were killed against the lantern, both immature males.

4. SAXICOLA ŒNANTHE. *Wheatear.*

This bird was observed on ten days. As an emigrant bound south, it was noticed singly, but numerously, during the day-time on Sept. 19th, 20th, 22nd, 27th, and Oct. 1st; and at the lantern, when possibly on a similar errand, on Sept. 22nd, 25th, 29th, and on Oct. 2nd and 3rd. On a few occasions single birds were seen flying to the S.E.; and immigrants, likewise singly, to the N.W. When attracted to the light, the bird was present in numbers, but probably these visitors arrived singly in this and other cases.

5. RUTICILLA PHŒNICURUS. *Redstart.*

Passed southwards on seven days between the 18th and 26th of September, and was numerous both by day and after dark. During the day-time it was observed to flit by singly but continuously; and at night several were at the lantern simultaneously, though they also may have appeared singly. On Sept. 25th a beautiful pinkish-buff variety with paler under surface and almost white wings, but with normally coloured lower back and tail, was killed at the lantern at 2 A.M., and proved to be a young male.

6. SYLVIA CINEREA. *Whitethroat.*

Participated in the great emigratory movement witnessed on the early morning of Sept. 25th, when a bird of the year was killed at the lantern.

7. REGULUS CRISTATUS. *Goldcrest.*

The first Goldcrests appeared on board singly during the forenoon of Sept. 23rd, others again on the 29th and on Oct. 1st, when they were moving southwards during the day-time. Numbers were flying in the rays and fluttering against the lantern during the early morning movements of Sept. 29th and Oct. 2nd and 3rd, and in the night of Oct. 17th–18th.

8. Phylloscopus rufus. *Chiffchaff.*

At the lantern with other species, probably emigrants, on Oct. 3. One was captured at 3 a.m.

9. Phylloscopus trochilus. *Willow-Warbler.*

Was moving southwards during the day-time on Sept. 19th. 20th, and 22nd; and on the early morning of the 25th was flying around the light, when several examples were killed. Came on board freely, but singly, and on leaving went S.S.W.

10. Hypolais icterina. *Icterine Warbler.*

One came on board on the afternoon of Sept. 22nd, and allowed an inspection at close quarters before it quitted the ship for the coast of Kent.

11. Motacilla lugubris. *Pied Wagtail.*

A few were moving to the S.S.W. late in September, but the bird was chiefly observed migrating to the S.E. and S.S.E. between daylight and 10.30 a.m. on Oct. 1st, 7th, 14th, and 16th.

12. Motacilla flava. *Blue-headed Yellow Wagtail.*

A fine adult male, in newly assumed winter plumage, was captured on the ship at 3.30 p.m. on Sept. 22nd, a great day for movements southward.

13. Motacilla raii. *Yellow Wagtail.*

One alighted on the deck at 1 p.m. on Sept. 22nd, remained a few moments, and then flew S.S.W. Many other species were moving southwards at the time, and probably other representatives of this species.

14. Anthus pratensis. *Meadow-Pipit.*

Was observed passing on seventeen days. The main line of flight for the emigrants was from N.W. to S.E., and considerable numbers passed in that direction from Sept. 18th to Oct. 14th between 6 a.m. and noon. Smaller numbers were observed moving to the S.S.W. The immigrants came from both the E. and S.E., chiefly from the former quarter, and passed in numbers towards the Essex coast from Oct. 7th to 16th, the chief flights being on the 8th, when some of the parties were forty strong. Was present during the night-movements of Oct. 3rd and 18th, but in small numbers; a few were killed.

15. ANTHUS TRIVIALIS. *Tree-Pipit.*

Was moving southwards during the day-time between Sept. 19th and 23rd, when several individuals came on board singly, some of which were captured. On the early morning of the 25th one was killed at the lantern along with other emigrant summer birds.

16. ANTHUS RICHARDI. *Richard's Pipit.*

A male in first plumage was captured at the lantern at 3 A.M. on Sept. 25th during a considerable movement of summer birds. Most unfortunately its tail was lost in the process of capture. Except as regards the bill, this species has a most remarkably lark-like appearance, and this, together with its very dark plumage and want of tail, tended to make it very difficult to determine, and I have to thank Mr. Hartert for its final identification.

17. ANTHUS OBSCURUS. *Rock-Pipit.*

Rock-Pipits, probably moving southwards, came on board on Sept. 23rd and Oct. 12th during the day-time, and one was captured at the lantern at 6.45 P.M. on Oct. 8th.

18. MUSCICAPA GRISOLA. *Spotted Flycatcher.*

Was flying around the ship, with a number of other emigrant species, from 1 to 4 A.M. on Sept. 25th, and two were killed at the lantern.

19. MUSCICAPA ATRICAPILLA. *Pied Flycatcher.*

Was first observed, and captured, on the night of Sept. 18th; and was moving southwards on the following day, when some alighted on the ship and proved their expertness in both finding and capturing insects, a "gamma" moth not being too much for them. On the 29th one was taken off the lantern at 3 A.M.

20. HIRUNDO RUSTICA. *Swallow.*

Swallows, old and young, were flying together to the S.S.W. on Sept. 26th and Oct. 2nd, 13th, 14th, and 16th; and to the W. on Sept. 26th and Oct. 14th. The chief movements were on Oct. 13th and 14th, when parties, some of them one hundred strong, passed southwards, all flying low over the surface of the water. The earliest hour for these migrants was 7.45 A.M. and the latest 2 P.M.

21. CHELIDON URBICA. *House-Martin.*

The first and greatest movement of this bird was observed on Oct. 9th, when, after a decided fall in temperature, numbers were passing from N.W. to S.E., from 9 A.M. to 1 P.M., some of the parties containing as many as fifty individuals. Smaller numbers passed in the same direction on the 13th. On the 14th and 16th small flocks were moving from E. to W. in the forenoon. On the 16th several went N.W. during the morning.

22. COTILE RIPARIA. *Sand-Martin.*

On Oct. 15th the watch reported that he had seen twenty "Swallows" passing S.S.W. at 5.45 A.M., and of these seven alighted on the rail and rested for ten minutes. They were quite tame and allowed a close approach, and were described as being "brown above and white below."

23. PASSER MONTANUS. *Tree-Sparrow.*

From Sept. 23rd until Oct. 8th single birds or pairs came on board from the E. at intervals. On the last-named date the bird passed in considerable numbers going due W., and again on the 11th and 18th. On the 11th a small party was observed flying to the N.W. Was not seen at night. This species came on board more frequently than any other, and displayed many of the traits characteristic of its commoner cousin, being both noisy and familiar, and having the knack of making itself at home, even at sea. When aboard during high winds and heavy rain, the birds used to hustle each other in the scramble for the most sheltered places, and shewed much pugnacity.

24. FRINGILLA CŒLEBS. *Chaffinch.*

First seen on Sept. 29th, when an adult male came on board at 5 P.M. Not observed again until Oct 8th, when the great E. to W. flights set in, in all of which this bird participated largely, passing in flocks in the fore- and afternoon. On the morning of Oct. 15th it was passing in flocks to the S.S.W. as an emigrant and to the W. as an immigrant. Many were present during the great night-movement of Oct. 17th–18th.

25. Sturnus vulgaris. *Starling.*

First observed on Sept. 24th, but down to Oct. 8th single birds only were seen, passing occasionally to both the S.S.W. and W. during the day-time. On Oct. 8th small parties passed from E. to W., and the initial movement in this direction was followed by others of considerable magnitude, which have already been treated of. Small numbers were occasionally observed emigrating from N.W. to S.E. during October. A solitary individual alone came under notice during the important nocturnal emigratory movements which took place in the latter half of September. The second occasion on which this species was observed at the lantern was during the great night-movement of Oct. 17th–18th, when thirty-two examples were killed or captured, all of them of the ordinary green-headed race. I secured only one specimen of the purple-headed form, and this came from the E. on the afternoon of Sept. 28th. I much regretted not being able to satisfactorily ascertain to what race the great numbers passing from E. to W. belonged, for not a single bird came aboard during these movements. It was impossible to say from what quarter the birds taken during the night-movement alluded to came. Some of my friends regard the purple-headed birds procured by me at the Eddystone as merely fresh-moulted specimens of the ordinary bird. If this be so, how is it that all the fresh-moulted examples obtained at the Kentish Knock at an almost identical date had green heads?

26. Corvus monedula. *Jackdaw.*

A few appeared from the E. at 4.25 p.m. on Oct. 17th, and others followed and were flying round the ship until 5 a.m. on the 18th. Two were captured.

27. CORVUS FRUGILEGUS. *Rook.*

The first Rooks appeared in small numbers from the E. at 5 P.M. on Oct. 17th, being preceded by a few Jackdaws. Several others made their appearance later, flying in the rays of light from 7 P.M. to 3 A.M. on the 18th, and an adult was captured at the lantern.

28. ALAUDA ARVENSIS. *Skylark.*

This species was more in evidence than any other, and its movements were of a singularly varied nature. As an emigrant it was observed moving to the S.S.W., S., and S.E.; and an immigrant to the W. and N.W. It participated largely in the southerly emigrations, both by day and night, during the latter half of September. It was also the most frequent visitor to the light, and was never absent from any of the night-movements. As with other species, its pronounced flights from E. to W. were not observed until Oct. 8th, but after that date it took a prominent part in all the great movements. It was present in numbers during the great night-migration of Oct. 17th–18th. Many were killed or captured at the lantern.

29. TINNUNCULUS ALAUDARIUS. *Kestrel.*

An adult male flew in the rays and approached the lantern continually between 8 P.M. of Sept. 18th and 1.30 A.M. on the 19th.

30. PHALACROCORAX CARBO. *Cormorant.*

Single birds were seen on Sept. 18th and 21st.

31. SULA BASSANA. *Gannet.*

Not unfrequently seen, moving chiefly southwards, and always in adult plumage. Did not fish in the vicinity of the lightship.

32. ŒDEMIA NIGRA. *Common Scoter.*

First seen on Sept. 28th and frequently afterwards, usually flying towards the feeding-grounds under the shelter of the sands. Many seemed to arrive from the W. on Oct. 8th.

33. Ægialitis hiaticula. *Ringed Plover.*

This species was heard on five nights between the hours of 6.40 p.m. and 1.15 a.m. passing over the ship towards the W. or N.W., namely on Sept. 17th, 19th, 24th, 25th, and 29th. The unknown notes of other Limicolæ were on three of these occasions heard at the same time.

34. Vanellus vulgaris. *Lapwing.*

Between 9.45 p.m. and 11 p.m. on Sept. 30th, during brilliant moonlight, Lapwings were heard passing overhead from E. to W.

35. Phalaropus hyperboreus. *Red-necked Phalarope.*

At midday on Sept. 30th one was seeking food on the water at some little distance from the ship.

36. Tringoides hypoleucus. *Common Sandpiper.*

Heard passing southwards at 10.45 p.m. during the night-movement of Sept. 18th, when Redstarts and Pied Flycatchers were flying around the lantern.

37. Sterna fluviatilis. *Common Tern.*

An immature example appeared and alighted on the rail during the forenoon of Sept. 29th.

38. Rissa tridactyla. *Kittiwake.*

Adults and young were common from Sept. 22nd onwards.

39. Larus argentatus. *Herring-Gull.*

An adult seen on Oct. 15th was the only example of this species observed.

40. Larus fuscus. *Lesser Black-backed Gull.*

Seen almost daily, but more numerously after Oct. 2nd.

41. Larus marinus. *Greater Black-backed Gull.*

A few seen daily after Oct. 3rd. I never noticed any decided movements on the part of Gulls.

42. Stercorarius pomatorhinus. *Pomatorhine Skua.*

From Oct. 7th was seen daily in attendance upon the Lesser Black-backed Gulls and Kittiwakes. Few mature birds were seen.

43. Stercorarius crepidatus. *Richardson's Skua.*

Present daily from Sept. 24th onwards, chiefly engaged in bullying the Kittiwakes and sometimes the Lesser Black-backed Gulls. The dark form largely preponderated.

44. Fulmarus glacialis. *Fulmar.*

On Oct. 2nd at 5.45 p.m. one was observed flying southwards.

45. Colymbus septentrionalis. *Red-throated Diver.*

Both adults and young were seen not unfrequently, but always singly, fishing near the ship.

46. Lomvia troile. *Common Guillemot.*

Not uncommon off the edge of the sand, where the shallow water probably affords good fishing-ground. These birds, and others seeking similar situations, were most numerous during strong westerly winds, when the east side of the sand afforded shelter and the possibility of obtaining food.

47. Alca torda. *Razorbill.*

The same remarks apply to this species as to the last.

48. Fratercula arctica. *Puffin.*

A single bird seen on the wing on Oct. 10th was the only record.

In conclusion, I wish again to tender to the Elder Brethren of the Trinity House my most sincere thanks for the great privileges which they so generously granted to me, and for the facilities placed at my service for carrying out the investigation. I wish also to thank Prof. Newton, Sir Michael Foster, and Captain Browne for much assistance and advice; and to record my obligations to Mr. E. Leborgne, the Officer-in-Charge of the lightship, and his excellent crew for many kindnesses and for services rendered, which contributed materially to my comfort and to any success that I may have achieved.

X.—*Notices of recent Ornithological Publications.*

1. *'Annals of Scottish Natural History.'*

[The Annals of Scottish Natural History. Nos. 47 & 48, July and October 1903.]

The first paper in the July number is by Mr. C. G. Cash, who gives an account of the Loch-an-Eilein Ospreys since 1895, the date up to which Mr. Harvie-Brown had summarized their history in the 'Vertebrate Fauna of the Moray Basin.' It is sad to learn, from a note by the Editors, that only one Osprey appeared at the old haunt in the spring of 1903, and that up to May 26th it was mateless. Mr. John Robertson contributes a paper on the birds of the island of Bute; and this is followed by the continuation of Mr. T. G. Laidlaw's Report on Movement and Migration in Scotland in 1902, which is concluded in the October number. That part also contains an extremely valuable article by Mr. Robert Service on Bird-migration in Solway—thoroughly deserving a careful perusal. Among the minor notices are records of Greenland Falcons in the Orkneys and Outer Hebrides, and of a Crane at the Pentland Skerries, which was shot, with reluctance, because of its devastation in the gardens. On Sunday it was spared, for intelligible reasons, but on Monday a renewal of the offence caused the close of its career.—H. S.

2. *Arrigoni degli Oddi on French and Italian Birds.*

[Materiali per una Bibliografia Ornitologica Italiana. Per Dott. E. Arrigoni degli Oddi. Atti Ist. Veneto, lxii. (1903) pp. 803–853.

Deux mots sur la Buse féroce (*Buteo ferox*) tuée à Lyon en Octobre 1902. Par le Comte E. Arrigoni degli Oddi. Bull. Soc. Zool. France, xxviii. (1903) pp. 1831–40.]

The first article has been written chiefly for the assistance of Italian ornithologists, and to induce local naturalists to record the occurrence of rare species. Separate lists of works are given for (1) Italy in general, (2) Northern Italy, (3) Central Italy, (4) Southern Italy, (5) the Italian Islands (including Sicily and Malta), and subdivisions of the same. The list for Southern Italy is comparatively short.

In the second article the author takes the opportunity of enumerating various examples of *Buteo ferox* that have been procured on the Continent of Europe.

3. '*The Auk.*'

[The Auk. A Quarterly Journal of Ornithology. Vol. xx. Nos. 3 & 4, July and October 1903.]

Mr. Spencer Trotter begins the July number of our contemporary with some notes on the birds observed by Peter Kalm, the Swedish botanist, during his travels in the eastern portions of North America between 1748 and 1751. In a paper by Mr. Witmer Stone, on the Generic Names of North-American Owls, the author expresses his regret at having "to work such a revolution in the nomenclature of such well-known birds" as the 'eared' owls, but he inserts the consoling clause that "if my views are adopted no change will be required in the genera of the 'earless' owls." Mr. Leverett M. Loomis, in a paper on the Recognition of Geographic Variation in Nomenclature, remarks that "the trick that ornithologists have of giving new names to familiar birds is an old trick, as old as the trade of ornithology"; but far more disquieting than the "old trick" is the modern "game of nomenclature," especially when the players are not agreed upon the meaning of the rules. Respect is, of course, due to the XIIth Supplement to the A. O. U. Check-list (pp. 331–368), which is, like its predecessors, the careful work of an authoritative Committee; moreover, the alterations in it refer chiefly to American species. An exception is *Erolia ferruginea*, but that is not such a mouthful as *Ancylocheilus arquata* for the Curlew-Sandpiper; but, oh! cursed spite, that ever this Old-World wader should have wandered to North America to have its name put right! In the latter part of the List about fifty species, of "questionable antecedents," are remanded for further inquiry.

Turning to field-ornithology, Mr. Allen Brooks contributes some interesting notes on the birds observed during fifteen months spent in the Cariboo district of British Columbia (roughly round lat. 52° N.), and among his discoveries were five nests of the Waxwing (*Ampelis garrulus*). He gives a charming plate of the young of six species of Ducks, one of which, the Buffle-head, is an occasional visitor to our islands. Mr. Austin H. Clarke, who has already given a list of the birds of the island of Margarita, Venezuela, now furnishes some interesting notes on the habits of the species observed in that locality; and in the October number (p. 398) discusses the forms of the Black-winged Palm Tanager. Mr. William Brewster sends some further notes on *Vireo philadelphicus*, and illustrates them with a very pretty sketch of the nest and eggs. The island of Laysan is well known as the breeding-place of countless sea-birds, but Mr. Walter K. Fisher's notes on the more terrestrial species will be new to many of our readers. That a strong-billed Finch (*Telespiza cantans*) should peck a hole in a Tern's egg was hardly to be expected, and still less that a Rail (*Porzanula palmeri*) lying in wait until the egg was perforated, should then drive away the Finch and appropriate the spoil. Photogravures of these performances, as well as of the nests of these and other species, are given. Mr. Robert E. Snodgrass has notes, with illustrations, on the anatomy of *Geospiza* and *Certhidea*—two genera which are characteristic of the Galápagos,—and also of *Cocornis*, a genus known only from Cocos, a small island lying off the Gulf of Panama, about four degrees north of the Equator. The results of several visits to some large and well-preserved colonies of the Herring-Gull on the Maine coast are described, with beautiful illustrations, by Messrs. W. Dutcher and W. J. Baily.—H. S.

4. '*Avicultural Magazine.*'

[Avicultural Magazine. The Journal of the Avicultural Society. New Series. Vol. i. No. 11. 1903.] *Cf.* Ibis, 1903, p. 607.

The present number contains an article by Mr. D. Seth-Smith on the Racket-tailed Parrot (*Prioniturus platurus*) with a coloured figure, an account of the Australian Honey-eaters by Mr. A. J. Campbell, a record by Mr. R. Phillipps of the nesting of the Waxwing in an aviary belonging to Mr. St. Quintin, and other contributions. It is interesting to learn (p. 353) to what extent Honey-eaters can be fed on honey and water, and still more interesting must it have been to keep watch over the breeding Waxwings, which nested three times and on the second occasion hatched several young.

5. *Blasius on the Great Auk.*

[Der Riesenalk. *Alca impennis* L. Neu bearbeitet von Geh. Hofrat Prof. Dr. Wilhelm Blasius in Braunschweig. (Sonderabdruck aus Naumann, Naturgeschichte der Vögel Mitteleuropas, Band xii.)]

As many of our readers know, there is now in process of issue, and in fact nearly completed, a so-called new folio edition of Naumann's celebrated 'Vögel Deutschlands,' which is really a fresh work on the same subject prepared by different authors. We have been favoured by our much esteemed friend and correspondent, Dr. Wilhelm Blasius, of Brunswick, with a copy of his memoir on the Great Auk (*Alca impennis*), which appears in the twelfth volume of the work in question; this we have great pleasure in introducing to the notice of British ornithologists who may not be acquainted with all that is written in Germany.

Dr. Blasius's elaborate essay is dedicated to Prof. Newton, "in grosser Verehrung und Dankbarkeit," and we may assume, therefore, with tolerable certainty, that it has not been prepared without the assistance of the greatest living authority on the subject. The memoir appears to us, so far as we can judge from a cursory examination, to contain a full *résumé* of what has been written on this much discussed question, while it is illustrated with five plates shewing the bird itself, its eggs, and its skeleton.

The synonymy of the Great Auk alone occupies seven pages, after which we find the description of the species, its geographical range (illustrated by several charts and sketches), the pursuit of it, its habits, its food, its reproduction, its enemies, and all its other attributes set forth at length and in proper order. The prices of the stuffed specimens, eggs, and skeletons of the famous bird which have been sold since 1832 are also fully discussed.

6. *Castle and Allen on Albinism.*

[The Heredity of Albinism. By W. E. Castle and Glover M. Allen. Proc. Amer. Ac. xxxviii. (1903) pp. 603–622.]

This paper contains a preliminary statement of the results of breeding experiments with mice, guinea-pigs, and rabbits conducted in the Zoological Laboratory of Harvard College during the last three years, with the addition of a bibliography of the subject. The student must be referred to the paper itself for precise details, but the conclusions may be here summarized as follows:—

1. Complete albinism behaves as a recessive character in heredity.

2. Partial albinism is a mosaic of dominant and recessive characters visible in the same individual.

3–6. The writers draw various inferences from the results obtained by breeding with mosaics.

7. Albinism, though apparently complete, may conceal traces of the pigment-forming character. Albinos thus constituted may be termed "impure recessives."

8. Cross-breeding can bring into activity latent elements, or may cause elements to become latent and remain so.

9. Substantiation of the Mendelian doctrine of gametic purity, except in so far as it is qualified by No. 8.

7. *Dubois' 'Synopsis Avium.'*

[Synopsis Avium. Nouveau Manuel d'Ornithologie par Alphonse Dubois. Fasc. XI., XII. 1902; Fasc. XIII., XIV. 1903.]

Since we last reported on this work ('Ibis,' 1902, p. 661) four more fascicules have been issued, containing the remainder of the Pigeons and the whole of the families of the Ptilopædes and Ratitæ. The total number of species catalogued in the three "Subclasses" is 12,000, besides 3327 subspecies or "varieties," as the author prefers to call them. In fascicule xiv. a supplement containing additions and corrections is commenced, and, if we understand rightly, the next fascicule will conclude the work.

8. *'The Emu.'*

[The Emu, a Quarterly Magazine to popularize the Study and Protection of Native Birds. Vol. iii. pt. 1 (July 1903), pls. i.-iv.]

Besides the usual minor contributions this part of 'The Emu' contains a study of variation by Capt. Hutton, based on the Cormorants of New Zealand, with speculations as to their genealogy and the original habitat of their ancestors. The writer is inclined to attribute many peculiar characters to reversion, and to minimize the effect of Natural Selection and "use-inheritance."

Mr. A. W. Milligan furnishes three articles on Western Australia. The first treats of a trip to the Stirling Range during September and October, with particulars of the discovery of the new species *Calamanthus montanellus* and *Melithreptus leucogenys* (*cf.* 'Ibis,' 1903, p. 612), and gives a list of 70 species, including the rare *Malurus pulcherrimus* and *Ptilotis cratitia*. The nests and eggs of *Petrœca campbelli* and *Calyptorhynchus baudini* were also found. The second article is devoted to Lake Yanchep and the new *Megalurus striatus* (*cf.* 'Ibis,' *l. s. c.*). The third contains a description of two new species, *Xerophila castaneiventris* and *Acanthiza robustirostris*, from Day Dawn, Murchison.

Mr. D. Le Souëf continues his paper on Birds' Eggs from the Port Darwin District, North Australia, with accounts of those of *Rhipidura phasiana* (new to science), *R. dryas*, *Ptiloscleru versicolor*, and *Platycercus amathusia*.

Mr. F. M. Littler furnishes notes of considerable length on some birds peculiar to Tasmania; Mr. T. Carter writes on those of the North-west Cape Region and the south-west of Western Australia; Mr. R. Hall on a collection from the Fitzroy River, North-west Australia, and on the plumage of *Ptilotis leucotis*; Mr. E. M. Cornwall on a trip to Oyster Cay, Upolu Reef, and Green Island; and Mr. H. Kendall on vernacular names.

The plates illustrate the home of *Calamanthus montanellus*, the nests of *Anas superciliosa* and *Calyptorhynchus baudini*, and a colony of Sooty Terns at Upolu Reef.

9. *Evans's 'Turner on Birds.'*

[Turner on Birds: a short and succinct History of the principal Birds noticed by Pliny and Aristotle, first published by Doctor William Turner, 1544. Edited, with Introduction, Translation, Notes, and Appendix, by A. H. Evans, M.A., Clare College, Cambridge. 8vo. Cambridge, University Press. 1903. Price 6*s*. net.]

Curiosity, to use no stronger word, concerning the ancient, often-cited, and little-seen work of William Turner, may now be easily gratified, as a reprint, with a translation and notes, has been published by the Syndics of the Cambridge University Press. It would hardly be becoming in these pages to speak of the Editor's treatment of his author, except to remark that the temptation to annotation has been strongly resisted; but some few of the more interesting and important facts which Turner tells us may be briefly mentioned. Advanced as he was in his opinions, he could hardly be expected to be free from the prevalent fiction as to the origin of Bernacle Geese, but there is a touch of redeeming humour in his statement that he should not have believed it had he not been assured of its truth on oath by an Irish divine, though that divine, alas! failed to fulfil his promise of submitting proofs of the same to Turner himself. The reader is left to draw the inference. Of somewhat like nature was the author's interview with the old Swiss goatherd, who told of the birds which not only milked his flock, but struck some of them blind, though fortunately these noxious birds had all flown away to carry on their evil practices in Lower Germany, where they were known by a name signifying "priests." Turner got into trouble over the Bittern, though he knew it well enough, mixing it up with the Pelican—owing to some confusion between booming and braying, for the latter was said to have the voice of an ass; but he very accurately made known to his countrymen the appearance of the Stork, which they had only seen as a captive. He was the first to publish a notice of the *Nucifraga*, which he had seen in the Rhætic Alps, where the people well knew its habits. His personal testimony to the breeding of the Crane in England, "where I myself have very often seen their pipers," as the translation runs, of course cannot be passed over here, often as reference to it may have been made. Another statement of his is perhaps of still greater interest to ornithology at large. Turner in Switzerland had actually handled the mysterious *Waltrapus*, as he Latinizes its German name—the "Waldrapp," though his recollection of it was imperfect; and thus his notice antedates that of Gesner by eleven years. Yet it would seem as if the two naturalists had already held friendly consultation about this bird, for Turner's remarks upon it anticipate what Gesner afterwards published, though the latter differed from his predecessor, who regarded it as the *Phalacrocorax* of Pliny. So indeed did Belon in 1555, as his figure shews (Hist. de la Nature des Oiseaux, p. 162), though he confounded it with a Cormorant—a point which seems to have been overlooked by most writers on *Geronticus* or *Comatibis eremita*. The greatest puzzle in Turner's book, however, is perhaps what may have been the English word which he writes in Latin form *Fedoa*, the equivalent of Godwit, used long after by Linnæus as the trivial name of one of the American species of *Limosa*. To Turner, also, we are indebted for the word *Sterna*, originally the local name, in some parts of England at least, for *S. nigra*, of whose breeding-places he gives a lively account:—

> "Through the whole of summer, at which time it breeds, it makes such an unconscionable noise that by its unrestrained clamour it almost deafens those who live near lakes and marshes. This I certainly believe to be the bird whose vile garrulity gave rise to the old proverb *Larus parturit*. It is almost always flying over lakes and swamps, never at rest, but always open-mouthed for prey. This bird breeds in thick reed-beds."

That is a picture more than three hundred and fifty years old. It is just half a century since *S. nigra* laid an egg in England!

With this we must conclude our notice; but there is hardly a page in the book which does not invite a commentary, and we believe that it will be found extremely interesting by many of our readers, while the Editor has certainly done his best to make it acceptable to them. His Introduction contains a sketch of the author's life, passages from his friend Gesner's great work, in which Turner is mentioned, a list of the birds determined by him arranged under Families so as to be readily found, and an Appendix containing extracts, with translations, from John Caius's work of 1570, wherein eleven species of birds are treated, and finally a full index to the whole.

Now we would offer a friendly challenge to our German brethren. We have taken from them an English author whom they have long held in captivity. Why should they not generously retaliate by setting free a prisoner—nay, two prisoners—of their own nation, and give us a reprint of the *Appellationes Volucrum* of Eber and Peucer? It is said to have been published first at Wittenburg in 1551, but we have never set eyes on a copy bearing an earlier date than 1575. It is often quoted by Gesner, and that in itself is a recommendation.—A. N.

10. *Goeldi's Album of Amazonian Birds.*

[Album de Aves Amazonicas organisado pelo Professor Dr. Emilio A. Goeldi. 2do fasciculo. Pará, 1902.]

We have already noticed ('Ibis,' 1902, pp. 149, 510) the first part of Dr. Goeldi's 'Album.' The second part contains illustrations, printed in colours, of the Amazonian Cotingas, Manikins, Parrots, Woodpeckers, Ant-eaters, Curassows, and many other birds, and is quite up to the same high standard. The work will, no doubt, serve its purpose of calling attention to the rich and varied Avifauna of Amazonia.

11. *Hartert on the Birds of the Key and South-east Islands.*

[On the Birds of the Key and South-east Islands and of Ceram-laut. By Ernst Hartert. Nov. Zool. x. p. 232 (1903).]

Mr. Hartert now gives us his third and final article on the birds collected by Mr. Heinrich Kühn on the Key group and other islands south-east of Ceram (*cf.* 'Ibis,' 1901, pp. 503, 726), bringing up the total to 150 species and subspecies.

Five specimens of *Phylloscopus borealis* are registered as having been obtained in these islands (Tooer and Maar) in November and December 1899.

12. *Hartert on the Birds of the Rio de Oro.*

[List of Birds collected at Rio de Oro by Mr. F. W. Riggenbach. By Ernst Hartert. Nov. Zool. x. p. 295 (1903).]

The Rio de Oro, a so-called "Spanish Colony" on the coast of North-west Africa between Morocco and Senegal, has hitherto been, so far as we know, quite an unexplored district as regards its birds. But Herr Riggenbach appears to have visited it at the wrong time of year, and not to have penetrated into the interior, so that, as Mr. Hartert well observes, his collection of birds is poor and unsatisfactory. It consists of examples of 18 species, which, so far as they go, would shew that the Avifauna is "quite Palæarctic and not tropical." All the species are European and Algerian forms, such as *Hypolais polyglotta*, *Saxicola leucura*, *Otocorys bilopha*, *Motacilla raii*, *Cypselus apus*, and *Upupa epops*. It is possible, however, that a visit to the interior of Rio de Oro in spring might lead to results of a more interesting character.

13. *Hellmayr on new or little-known South-American Birds.*

[Ueber neue und wenig bekannte südamerikanische Vögel. Von C. E. Hellmayr (München). Verh. zool.-bot. Gesellsch. Wien, 1903, p. 199.]

Herr Hellmayr's studies on South-American birds are based mainly on the unrivalled series obtained by Natterer, now in the Vienna Museum, but he acknowledges much assistance from specimens lent to him by several kind friends.

Beginning with the Pipridæ, the author describes a new subspecies of *Pipra isidorii* from Northern Peru as *P. isidorii leucopygia*, likewise a new species of the group of *P. opalizans* as *P. gracilis*. The latter is based on a single female specimen from Engenho de Gama, in Matto Grosso, obtained by Natterer in 1826. He then proceeds to arrange the complicated synonyms of the three species of *Scotothorus* (nuper *Heteropelma*), and gives the new name *S. sulphureiventer* to one of them from Matto Grosso and Bolivia.

Proceeding to the Tyrannidæ the author describes the unknown male of *Hapalocercus hollandi* Scl., which has a very curious wing-structure, and characterizes as new *Euscarthmus nattereri* from a Nattererian specimen from Paraná. The difficult genus *Rhynchocyclus* is now attacked, and two new subspecies, *R. poliocephalus sclateri* and *R. flaviventris borbæ,* are separated.

Among the Formicariidæ the author makes many critical remarks on the species of the genera *Herpsilochmus, Myrmotherula, Myrmeciza, Phlogopsis, Dysithamnus,* and *Thamnophilus,* and describes as new species or subspecies *Herpsilochmus roraimæ, Myrmotherula berlepschi, Thamnophilus nigricristatus difficilis, Grallaria varia cinereiceps,* and *G. berlepschi.*

Of the family Dendrocolaptidæ, *Picolaptes bivittatus bahiæ* and *Philydor rufipileatus maynanus* are described as new. Finally, the South-American Mocking-birds are revised, and two new subspecies, *Mimus saturninus frater* and *M. longicaudatus punensis,* are proposed.

14. *Hellmayr on the* Paridæ, Sittidæ, *and* Certhiidæ.

[Das Tierreich, &c. Lief. 18. Aves. Paridæ, Sittidæ, und Certhiidæ, bearbeitet von C. E. Hellmayr in München. Berlin: Friedländer u. Sohn, 1903. Pp. 256. Price 17*s.*]

The last part of the 'Tierreich' relating to Birds was Dr. Finsch's "Zosteropidæ" (see 'Ibis,' 1902, p. 661), dated 1901. After more than a year's interval comes the present part, from a young and ardent ornithologist now settled, we hope definitely, at Munich, where a votary of our special branch of zoology was much required. It is devoted to three families well known to all of us—the Tits, Nuthatches, and Tree-creepers. Of these the Paridæ (under which head the author arranges the Regulinæ, Polioptilinæ, and Paradoxornithinæ, besides the typical Parinæ) are by far the most numerous, and occupy the greater part of the volume. We are pleased to see that the numerous subdivisions into which some recent workers have split the old genus *Parus* (11 in all) are used only as subgenera, and that the "subspecies," though carefully enumerated, are not given quite the same rank as the species. Thus 12 subspecies of *Parus palustris* are recognised, 11 of *Parus ater*, and 7 of *Parus cæruleus*. Altogether 66 species of *Parus* are allowed, besides the subspecies, and 114 species are placed in the subfamily Parinæ. The Regulinæ number 11, the Polioptilinæ 13, and the Paradoxornithinæ 24, so that the total number of the family Paridæ would be about 162. Whether *Chamæa* can be correctly placed among the true Parinæ is, we think, a little doubtful, but we believe that its affinities are Parine. The generic name *Psittiparus* is proposed for *Paradoxornis flavirostris* Gould and some allied species. In the Sittidæ Herr Hellmayr includes besides *Sitta* (with 23 species), *Neositta* with 9 species, and *Daphænositta* and *Hypositta* with 1 species each —making altogether 34 species of the family. "*Neositta*" is a new name proposed by Herr Hellmayr (J. f. O. 1901, p. 187) in place of *Sittella*, because Rafinesque is supposed to have suggested *Sittella* as an equivalent for *Sitta* in 1815. But this seems to be a very unnecessary change, Rafinesque's silly names being unknown and hardly adopted by anyone. *Sitta europæa* is subdivided by Herr Hellmayr into 12 subspecies. Of the third family here treated, the Certhiidæ, the author recognises 4 genera, *Certhia*, *Salpornis*, *Tichodroma*, and *Climacteris*, with 27 species altogether. But *Certhia familiaris* is subdivided into 12 subspecies, amongst which is *Certhia familiaris brittanica* (sic!) of Ridgway. To *Certhia brachydactyla* of Brehm full rank as a species is given. Now we will ask, how many Members of the B. O. U. could distinguish *C. brachydactyla* from *C. familiaris* or *C. britannica* (we will omit the second *t*) from either of them?

But such criticisms are mere details, and those of our readers who consult Herr Hellmayr's contribution to the 'Tierreich' will find it a very careful and accurate piece of work, and will agree with us that it does the author great credit.

15. *Huber on the Materials of the Nest of* Ostinops decumanus.

[Sobre os materiales do ninho do Japú (*Ostinops decumanus*). Por Dr. J. Huber. Bol. Mus. Paraense, vol. iii. p. 328 (1902).]

This is the paper alluded to by Dr. Goeldi in his letter published in the last number of our Journal ('Ibis,' 1903, p. 632), in which the material used by the Great Cacique (*Ostinops decumanus*) in building its nest was shown to be a rhizomorph of the genus *Marasmius*, and not the fibre of *Tillandsia usneoides*. The structural differences between these two vegetable substances are fully pointed out and figured.

16. '*Irish Naturalist.*'

[The Irish Naturalist. A Monthly Journal of General Irish Natural History. Edited by G. H. Carpenter, R. L. Praeger, and Robert Patterson. Vol. xii. Nos. 1–12. Eason & Sons, Dublin.]

The ornithological feature of the volume for 1903 is Mr. E. Williams's paper on the breeding of the Red-necked Phalarope in the west of Ireland, with an illustration of the adult and young birds. The locality is kept secret, but inasmuch as a Government official has given an open order for Irish eggs of the Red-throated Diver, there is little chance of the Phalarope escaping for long. This species was not known even as a visitor to Ireland before 1891; and on its breeding-history and migrations Mr. J. A. Harvie-Brown contributes an interesting paper (p. 96). It is sad, but not at all surprising, to learn from Mr. Robert Warren of the neglected condition of the valuable collection of Irish birds bequeathed to Queen's College, Cork, by the late Dr. J. R. Harvey. Mr. C. B. Moffat moots a new theory, which conflicts to a considerable extent with the views of Darwin. The author enters upon an enquiry into the reason of different species which breed in a particular district not shewing any perceptible increase in numbers from year to year; and he attributes the fact rather to lack of space than to mortality among individuals. He thinks that there may be more "bachelors" and "old maids" among birds than is usually supposed, and that the males fight in spring not so much for the females as for the command of a particular locality. Moreover, he believes that the cock's song may be primarily intended for a challenge, and that bright colours may act as "warnings" to rivals. We confess, however, that we are unable to understand where all Mr. Moffat's unpaired birds hide themselves, nor can we agree that all the available breeding-stations are fully occupied. Mr. Nevin H. Foster continues his observations on the weight of birds' eggs, and adds thirteen species to his former list. Among the rarities the most important is *Acrocephalus aquaticus*, the first specimen recorded for Ireland, received by Mr. R. M. Barrington from the Bull Rock lighthouse, where it struck the lantern on September 20th last. This is yet another instance of the value of these lighthouse- and lightship-observations which Mr. Barrington has fostered. The occurrence of a Great Bustard, the discovery of remains of the Great Auk in Co. Clare, and the migrations of the White Wagtail are among the many records worthy of notice.—H. S.

17. *Loudon's Ornithological Journey in Central Asia.*

[Ergebnisse einer ornithologischen Sammelreise nach Zentral-Asien (1901). Von Harald, Baron Loudon. Ornith. Jahrb. 1901–3.]

Baron Loudon has kindly sent us a separate copy of an account of his adventurous ornithological journey into Central Asia, which has appeared in several numbers of the 'Ornithologisches Jahrbuch,' and we have looked through it with much interest. The author travelled by way of the Caucasus to Baku, and crossing the Caspian to Krassnovodsk traversed the trans-Caspian railway to Merv, stopping at several selected stations on the line. From Merv an excursion was made southwards along the branch-line to Kuschk, and the Russo-Persian frontier-lands were explored. It is obvious that the numerous observations on birds which Baron Loudon made throughout his journey must be of great interest to ornithologists, and we commend them to all students of the Palæarctic Ornis. Baron Loudon frequently mentions Zarudny (whose acquaintance he made in Askabad), and his enormous series of specimens collected in various parts of this district. It is a misfortune that Zarudny's 'Ornithological Fauna of the Transcaspian Region' (Moscow, 1896) is written in Russian, and is therefore inaccessible to most Western ornithologists.

18. *Macoun on Canadian Birds.*

[Catalogue of Canadian Birds. Part II. By John Macoun. Ottawa, 1903. 8vo. Pp. i–v, 219–413. Price 10 cents.]

The second part of Mr. Macoun's Catalogue, issued, as before (see 'Ibis,' 1901, p. 505), under the supervision of the authorities of the Geological Survey of Canada, contains the Orders *Raptores*, *Coccyges*, *Pici*, *Macrochires*, and *Passeres* (pt.). Since the publication of the first part much valuable information has been obtained with regard to Alaska, British Columbia, Labrador, and the Hudson Bay region from Messrs. W. H. Osgood, A. Brooks, H. B. Bigelow, S. N. Rhoads, and others; while Messrs. Spreadborough, J. M. Macoun, and the members of the Geological staff generally have shown considerable activity in various parts of the Dominion, the limits of which for ornithological purposes have been extended to Alaska and Greenland. A specially remarkable record is that of the occurrence in the far north of the Scissor-tailed Flycatcher (*Milvulus forficatus*), a characteristically southern species.

19. *Madarász on Venezuelan Birds.*

[Description of some new Birds from Venezuela. By Dr. Julius v. Madarász. Ann. Mus. Nat. Hungar. 1902, pp. 462–464.]

The new species described are *Elainea gularis* from Escorial, *Cinclodes heterurus* from Culata, San Antonio, and Valle, *Siptornis certhia* from San Antonio and Santo Domingo, *Synallaxis occipitalis* from Escorial and Valle, and *Dendrexetastes berlepschi* from Culata. The last-named somewhat resembles *Xiphocolaptes promeropirhynchus*, and woodcuts of the bill are given to shew the difference.

20. *Oates and Reid on Birds' Eggs.*

[Catalogue of the Collection of Birds' Eggs in the British Museum (Natural History). Vol. III. Carinatæ (Psittaciformes—Passeriformes). By Eugene W. Oates, assisted by Capt. Savile G. Reid. London: 1903. Price 25*s.*]

Owing to the unfortunate illness of Mr. Oates (the author of the first two volumes of this Catalogue), the MS. of the third volume, which he had nearly finished, has been finally revised by Capt. Savile Reid, whose qualifications for such a task are well known. The general style and arrangement are exactly the same as those of the two previous volumes.

The order observed is, as before, that of the Hand-list; and after the name of the species only a few synonyms, specially referring to nests and eggs, are given. Then follows a description of the egg and a list of the specimens of it in the British Museum, with localities, dates, and authorities. Under the headings of the Orders, Families, and sometimes Genera short remarks are inserted concerning the characteristic shape, structure, and colour of the eggs of the members of the groups in question; and these are particulars on which, we think, a little more information might have been given. For instance, in the case of the Irrisoridæ, although the eggs of this important Family are not represented in the series, it would have been easy to call attention to a *desideratum* in a few lines, and to say how important it is to fill up this *hiatus valdé deflendus*!

The third volume of the 'Catalogue of Eggs' commences with the Parrots, and carries us on through what for shortness (at least) we may still call the Picarians. The Mesomyodian Passeres are taken next, and then comes the commencement of the Oscines. The eggs of 907 species (represented by 8474 specimens) are described in this volume. Ten well-coloured plates illustrate some of the most remarkable forms. But we may venture to express a regret that each plate should not have been confined to the eggs of a particular group, with the names of the species printed on the plates instead of being "explained" in a separate list of figures.

21. *Ogilvie-Grant and Forbes on the Birds of Socotra and Abd-el-Kuri.*

[The Natural History of Sokotra and Abd-el-Kuri. A Monograph of the Islands. Edited by Henry O. Forbes, LL.D. Liverpool, 1903. Aves by W. R. Ogilvie-Grant and Henry O. Forbes.]

This volume contains the results of the expedition to Socotra and Abd-el-Kuri undertaken in the winter of 1898–99 by Mr. Ogilvie-Grant, representing the British Museum, and Dr. Forbes, representing the Liverpool Museum, and the section "Aves" has been written by these two gentlemen.

The number of birds collected by the expedition was 437: 396 on Socotra and 41 on the smaller island of Abd-el-Kuri, which lies between Socotra and Cape Guardafui. The species represented in the collection are 50: 40 from Socotra and 10 from Abd-el-Kuri. Previous authorities had recorded 20 more species from Socotra, examples of which were not met with on the present occasion. On the other hand, Messrs. Ogilvie-Grant and Forbes have added 9 species to the Socotran list, 5 of which (namely, *Fringillaria insularis*, *F. socotrana*, *Caprimulgus jonesi*, *Scops sumatranus*, and *Phalacrocorax nigrigularis*) have been described as new to science. They also discovered 3 new species on Abd-el-Kuri, namely, *Amydrus creaghi*, *Passer hemileucus*, and *Motacilla forwoodi*.

Altogether 67 species are catalogued in the present work as found in Socotra by the authors or by previous authorities, and 22 from Abd-el-Kuri; while good field-notes are given upon such of them as were observed. Five coloured plates contain figures of *Fringillaria socotrana*, *F. insularis*, *Caprimulgus jonesi*, *Scops socotranus*, *Phalacrocorax nigrigularis*, *Passer hemileucus, and Motacilla forwoodi.*

The avifauna of these islands is, as might have been expected, purely Ethiopian, with a few representative species more or less differentiated. The strong-billed Sparrow *Rhynchostruthus socotrensis* is perhaps the most prominent feature in the Socotran Ornis; but a closely allied, though smaller form (*R. louisæ*), occurs in Somaliland.

22. *Rothschild and Hartert on Papuan Birds.*

[Notes on Papuan Birds. By the Hon. Walter Rothschild, Ph.D., and Ernst Hartert. Nov. Zool. x. p. 196 (1903).]

The authors continue their instructive notes on Papuan Birds (see 'Ibis,' 1903, p. 428), of which the Tring Museum has a very rich series. The Meropidæ, Coraciidæ, Podargidæ, and Caprimulgidæ are first discussed, and the ranges of the species are specially indicated. The Passerine families Campephagidæ, Nectariniidæ, Dicæidæ, Motacillidæ, Sylviidæ, and Timeliidæ follow, and the following species and subspecies are described as new:—*Edoliosoma melas tommasonis*, *E. m. meekii*, *E. meyeri sharpei*, *Dicæum geelvinckianum diversum*, *Myzomela eques nymani*, and *Sericornis pusilla*. Our friends will pardon us if we protest against such a barbarous name as "*tommasonis*," when there is an excellent Latin genitive "*thomasi*" in ordinary use: we are sure that the veteran ornithologist whom it is intended to honour will not be pleased with it. A complete list of the *Myzomelæ* is given, and 42 species and subspecies are enumerated, with their localities.

23. *Seth-Smith on Parrakeets.*

['Parrakeets: being a Practical Handbook to those Species kept in Captivity. By David Seth-Smith, F.Z.S., M.B.O.U. Part 6. Pp. i–xx, 217–281; 3 pls. London: R. H. Porter, 1903. Price 6*s*. net.]

We congratulate Mr. Seth-Smith on the successful completion of this useful work, which ought to be in the hands of all those who keep Parrots. It furnishes a reliable compendium of our present knowledge of the imported species, both as regards their habits in the wild state and their management in the aviary, while the plates will be a boon to ornithologists generally. The species treated in this concluding part are *Neophema elegans*, *N. chrysogastra*, *N. petrophila*, *N. pulchella* (col. pl.), *N. splendida* (col. pl.), *Cyanorhamphus unicolor* (col. pl.), *C. novæ-zealandiæ*, *C. saisseti*, *C. auriceps* (col. pl.), *C. malherbii*, *Nymphicus cornutus* (fig. of head), *N. uvæensis*, *Nanodes discolor*, *Melopsittacus undulatus*, *Pezoporus terrestris* (fig.), *Geopsittacus occidentalis*, and

Ptilosclera versicolor (col. pl.). A general and a systematic index are added, and also an appendix, in which, among other items, details are given of the rearing in captivity of the young of *Platycercus erythropeplus*, which is proved to be a hybrid between *P. elegans* and *P. eximius*. *P. mastersianus* is, moreover, considered to be a variety of *P. elegans*.

24. *Sharpe's 'Hand-list of Birds,'* vol. iv.

[A Hand-list of the Genera and Species of Birds. (Nomenclator Avium tum Fossilium tum Viventium.) By R. Bowdler Sharpe, LL.D., Assistant Keeper, Department of Zoology, British Museum. Vol. IV. London, 1903. Pp. xii+392. Price 10*s.*]

The third volume of the 'Hand-list' was issued in 1901, as already recorded in this Journal (see 'Ibis,' 1902, p. 159). In the fourth volume, published in September last, Dr. Bowdler Sharpe continues the enumeration of the Acromyodian Passeres, and treats of the following families:—

		No. of genera.	No. of species.
Fam. V.	Timeliidæ	122	575
VI.	Troglodytidæ	22	256
VII.	Cinclidæ	1	19
VIII.	Mimidæ	14	71
IX.	Turdidæ	75	598
X.	Sylviidæ	76	523
XI.	Vireonidæ	6	111
XII.	Ampelidæ	5	10
XIII.	Artamidæ	2	20
XIV.	Vangidæ	6	12
XV.	Prionopidæ	16	95
XVI.	Aerocharidæ	1	1
XVII.	Laniidæ	33	321
XVIII.	Paridæ	24	209
XIX.	Chamæidæ	1	3
XX.	Regulidæ	4	20
XXI.	Sittidæ	5	60
XXII.	Certhiidæ	5	39
		418	2943

It will thus be seen that the average number of species to a genus is about 7. This seems to be rather a low average. We believe that the number of genera admitted in Zoology might be considerably reduced, and with great advantage.

Botanists are not afraid in some cases (*e. g.* the genus *Senecio*) to put nearly 1000 species under the same generic head.

We add a few remarks upon some of the generic terms employed in the fourth volume of the 'Hand-list.'

We do not think that the well-known generic name *Hylophilus* should be rejected in favour of *Pachysylvia* because a genus of Insects had been previously named *Hylophila*. *Picus* and *Pica* are habitually used for two different genera of Birds, and *Hylophilus* has a still greater claim to be maintained, because its rival *Hylophila* relates to a different Class of Animals. Dr. Sharpe would have done better, in our opinion, not to have followed Mr. Oberholser's suggestion on this subject.

We also think that Mr. Oberholser's "correction" of "*Aerocharis*" in place of the well-established name "*Euryceros*" need not have been attended to. *Aerocharis*, we are able to inform Dr. Sharpe, was proposed by Gistel (Nat. Thierr. p. ix) in 1848 as a substitute for *Euryceros*, Lesson, 1830, apparently because "*Eurycera*" had been previously used in Entomology by Fabricius. But in our opinion, as in the case last referred to, it is quite unnecessary to alter a well-known name on such trivial grounds.

On a third point in generic nomenclature we have the pleasure of agreeing with Dr. Sharpe. It is certainly very doubtful whether Meyer intended his term "*Phyllopseustæ*," used in the plural number for a division of the genus *Sylvia*, to be employed in a generic sense; and we therefore quite agree to the maintenance of the well-known term *Phylloscopus*, Boie, 1826, for the "Leaf-Warblers," as they may be appropriately called—a course followed by Mr. Dresser in his 'Manual.' The term "*Phyllopneuste*" used by some authors originated in a misprint of *Phyllopseuste*, made by Boie in the 'Isis' (1828, p. 321).

25. *Shufeldt on the Osteology of the Steganopodes.*

[The Osteology of the Steganopodes. By R. W. Shufeldt, M.D., Mem. Carnegie Mus. vol. i. no. 3. Pittsburgh, Pa., U.S.A. Quarto. Pp. 116.]

This is another of Dr. Shufeldt's memoirs on the Osteology of Birds, which the author has unfortunately found it necessary to publish in several forms and in different periodicals. In a uniform and connected series they would have been of much greater value.

The result arrived at is that the Order Steganopodes is composed of 3 " Superfamilies "—Pelecanoidea, Phaëthontoidea, and Fregatoidea. To the first of these belong the four families Pelecanidæ, Phalacrocoracidæ, Anhingidæ, and Sulidæ; while the other two are based upon the genera *Phaëthon* and *Fregata,* which constitute respectively the families Phaëthontidæ and Fregatidæ.

Ten plates, reproduced from photographs, illustrate this memoir.

26. *Tschusi zu Schmidhoffen on Austrian and Hungarian Birds.*

[Ornithologische Kollektaneen aus Oesterreich-Ungarn und dem Occupations-Gebiete. Von Victor Ritter von Tschusi zu Schmidhoffen. Ornith. Monatsb. xxviii. (1903) pp. 59–67, 297–306.

Ornithologische Literatur Oesterreich-Ungarns und des Okkupationsgebietes 1901. Von Viktor Ritter v. Tschusi zu Schmidhoffen. Verh. z.-b. Ges. Wien, 1903, pp. 271–285.]

The first two of these articles contain further records of the occurrence of various species (24 and 33 respectively) in Austria Hungary and the Occupation-Territory, with short notes. The third is a useful list of works published in 1901 on the birds of the same countries.

27. *Winge on the Birds of the Danish Lighthouses,* 1902.

[Fuglene ved de danske Fyr i 1902. 20de Aarsberetning om danske Fugle. Ved Herluf Winge. Vidensk. Meddel. fra den naturh. Foren. i Kbhvn. 1903, pp. 335–387.]

This is the twentieth of the excellent series of reports on the birds met with at the Danish lighthouses, and relates to the year 1902, during which 750 specimens of 50 species were sent to Copenhagen from 30 localities. These are all discussed in the usual thorough manner. The four most abundant victims of the Danish lighthouses appear to be *Alauda arvensis, Sturnus vulgaris, Turdus musicus,* and *Erithacus rubecula.*

XI.—*Letters, Extracts, Notices, &c.*

We have received the following letters addressed to "The Editors of 'The Ibis'":—

Sirs,—I have read Dr. Selah Merrill's paper on the Birds of Palestine ('Ibis,' 1903, p. 321) with mingled feelings of disappointment and satisfaction—of disappointment that so energetic a collector, with many to assist him, should in four whole years have been able to make so insignificant an addition to the avifauna of the country; of satisfaction at the proof thus afforded that the country had been already pretty thoroughly worked.

Of the nine birds which Dr. Merrill has added to the list it is unfortunate that he has omitted to give either the date of capture or the locality. But of these, the Golden-eye, the Common Sheldrake, the White-tailed Plover, and Nordmann's Pratincole are all well-known wanderers in winter over the Levant and the Red Sea.

The Brambling and the Yellow-hammer are regular winter visitants to Asia Minor, and might naturally go a little further, to Palestine. The occurrence of the Red-necked Phalarope is interesting, though not surprising, as it has been taken at Aden, Karachi, and even at Madras. The Slender-billed Curlew (*Numenius tenuirostris*) is certainly a rare bird everywhere, and well worth notice.

As to the Lineated Cuckoo, called by Dr. Merrill *Cuculus leptodetus* (really a synonym of *C. gularis*), which occurs on the Nile, it is possible that Dr. Merrill may be right; but the species is so like our Common Cuckoo (*Cuculus canorus*) that I should be unwilling to accept it unless on the authority of an expert.

In his five pages of criticism on my Catalogue the doctor really asserts too much. His very first criticism is on the Rock-Thrush, which I say "is a passing stranger tarrying but a night." Though I do not say that it returns in autumn, surely anyone would have understood that to be the case with a migratory bird.

Of the Hermit Fantail (*Drymœca inquieta*) I state that it is very scarce wherever found; but the remark on this statement is that it is "quite common." I venture to suggest that the bird which the doctor saw may have been the common Fantail of the country (*D. gracilis*).

With regard to the Sun-birds it is suggested that those found at Jaffa may be of a distinct species from the Sun-bird of the Jordan Valley. I certainly demur to this. I found a Sun-bird identical with that of the Jordan Valley south of Mt. Carmel. When I worked on birds in Palestine, more than ten years ago, there was very little cultivation about Jaffa; it is now embosomed in a vast tract of orange-groves and gardens. What could be more natural than that emigrants from the south of Mt. Carmel should take up their abode in a district so admirably suited to their habits? The extension of the range of Tristram's Serin (*Serinus canonicus*) from the highlands of Lebanon to the neighbourhood of Jerusalem is certainly interesting.

Now on the African Buzzard (*Buteo desertorum*) I wrote "this may probably be entered among the birds of Palestine, though I have never obtained a specimen." On this Dr. Merrill's comment is, "As Dr. Tristram says, it has never been found in Palestine." This is scarcely fair criticism. But I will not encroach upon your space by further examples of what I may call rather carping remarks, though under the guise of "additions." In making my list I was careful to include nothing that I had not myself obtained, or that had not been brought to me in the flesh. In other cases I simply stated, when I had been told that the bird was found, that it *probably* existed there. My exploration was completed in one year, and, of course, I never dreamed of claiming to have come across every bird that visits the country.

I may mention that Dr. Merrill, when in England, wrote to me upon his supposed discovery of a "new Sun-bird." I expressed my incredulity, and suggested that, as is well known, there are great varieties of seasonal plumage in these birds. Dr. Merrill offered to shew me the specimens, but unfortunately found that they had been packed away for transport to America.

It should be remembered that when I state that I found a bird in one locality it is not to be assumed that I imply that it occurs in no other. Had I had four years instead of one in which to work I should doubtless have increased my localities tenfold.

Yours &c.,
H. B. Tristram.

College, Durham,
Sept. 25th, 1903.

Sirs,—In Dresser's 'Manual of Palæarctic Birds,' among the species of the genus *Œstrelata*, I find *Œ. mollis* (p. 856) with the *habitat* given as "The Southern Seas of the Atlantic north to Madeira."

In two papers of mine, one on the birds of Cape Verde Islands collected by Signor Leonardo Fea (Ann. Mus. Civ. Gen. (2) xx. pp. 283–312), and the other "On *Œstrelata mollis* (Gould) and the Allied Species living at Madeira and the Cape Verde Islands" ('Ibis,' 1900, pp. 298–303), I believe that I have shown conclusively that the bird from the Southern Seas (*Œ. mollis*) is specifically different from that living in Madeira and the Cape Verde Islands, which I have named *Œ. feæ*. It appears that these papers must have escaped Mr. Dresser's notice.

Yours &c.,
T. Salvadori.

Zoological Museum, Turin,
6th December, 1903.

Bird-life on the Upper Nile.—Descending the Upper Nile from Lake Albert to Dufileh, Capt. C. A. Sykes, in his well-written volume on 'Service and Sport on the Tropical Nile,' describes the bird-life of that part of the great River as follows:—"In the early morning the birds were always the attraction. Amongst the reeds would generally be some ibises and herons with their wings hung out to dry the damp of the previous night, blinking in the rising sun and making preparations to enjoy the day. Dark red waders with their white caps and long legs would be scudding about the surface of floating vegetation, sometimes rising to fly forty or fifty paces, but always preferring to be on their feet. Peeping down some small tributary one might catch a glimpse of the solemn whale-headed stork (*Balæniceps rex*) slowly waking to the world and pluming himself. In the reeds and grass might be seen gorgeous crimson finches hopping about from stalk to stalk and sparkling in the sun; and by the banks many kinds of Bee-eaters with lustrous metallic red and green plumage, darting about and snapping up their food; or close to the glassy surface of the water might come swiftly flying a tiger kingfisher, in grey and white. In the calms, duck and teal would be floating about, to get under wing at our approach and fly away. In the swampy parts, snipe would suddenly get up squawking and protesting at our intrusion into such undesirable spots. Beautiful little blue-birds would flit about the mimosa trees, upon which also might be seen hung innumerable fruit-eating bats. High up in the heavens some magnificent eagle might be making a journey, and slowly circling above would be most likely the ever-present vultures and marabou storks. At night, or during the twilight, the night-jar would appear with his uneven flight, awakening the silence with a beautiful liquid voice. The species peculiar to these parts is very weird, for it has two little pennants flying behind it, attached by long sinews to the wings. It uses these pennants in the most wonderful manner. When the bird settles on the ground, *it raises them erect to mimic grasses in flower*, and, with its body lying close to the ground, looking for all the world like a small tuft, it is passed by undetected. The females lay their eggs on the bare ground, and so do not have to move on the approach of danger. Unconscious of their presence, I have often put them up just as I was about to tread on them. Though their note is sweet-sounding, it becomes most distressing to a sick man trying to get to sleep, and many a time have they been cursed for their songs." [This quotation includes a very interesting observation. The Nightjar in question is, no doubt, *Macrodipteryx longipennis*, and this may be the explanation of its very curious wing-structure. In Newton's 'Dictionary of

Birds' (p. 611) will be found a figure representing the bird on the ground with its elongated primaries raised exactly in the way described by Capt. Sykes.—Edd.]

Mr. Robert Hall's Expedition to the Lena.—Our readers will be glad to know that our energetic Australian correspondent, Mr. Robert Hall, has safely accomplished his projected journey from Melbourne to London, *viâ* Vladivostock and Siberia, as announced in April last ('Ibis,' 1903, p. 270), and, after a short visit to his ornithological and other friends in England and on the Continent, has returned to his home in Australia. Not only so, but Mr. Hall, on his route across Siberia, made a most interesting excursion from Irkutsk down the valley of the river Lena, and formed a good collection of birds, which is now in the Tring Museum.

Reaching Irkutsk on June 4th of last year, Mr. Hall immediately proceeded on a four-days' coach-journey to Verkholensk, the head of regular navigation on the Upper Lena, where he arrived on June 9th. Here an open boat was engaged for a five days' drift down the river. The course was continued in a stern-wheel steamer to Yakutsk, the capital of the great province of the same name. Mr. Hall and his companion, Mr. R. E. Trebilcock, were able to collect a few birds every day while the steamer stopped to take in wood for fuel. At Yakutsk a short excursion was made into the interior, and examples of some interesting birds were secured on their breeding-grounds. On their return to Yakutsk an offer was made to the travellers to join a small steamer going down to the mouth of the Lena to convey provisions to a Russian Exploring Expedition. This was gladly accepted, and on July 6th the party reached Boulun, where the fir-trees began to become scanty and the hills to be bare of timber. On July 12th they were at Larix Island, just within the mouth of the Lena, about 72° N. lat. Here the first piece of true tundra was met with and thousands of Waders were seen, The mosquitoes between Irkutsk and Boulun, some 1400 miles distant, were almost unbearable. On August 21st, Mr. Hall and his companion reached Irkutsk on their return journey with a collection of 401 bird-skins from this little-known corner of Asia, and brought them safe, *viâ* Moscow and St. Petersburg, to London.

Dr. Bowdler Sharpe.—Dr. Sharpe is enjoying a well-earned rest in the steam-yacht 'Emerald,' in which some kind friends have offered him a place for a winter-tour in the West Indies. The 'Emerald' left Nice, where Dr. Sharpe joined her, on Nov. 18th last, and was at Funchal, Madeira, "weather-bound," on Dec. 4th.

Winter-cruise of the 'Valhalla.'—Lord Crawford left the Solent on Dec. 16th last in the R.Y.S. 'Valhalla' for a winter-cruise in the West Indies, and again took with him our friend Mr. M. J. Nicoll as naturalist. After calling at Teneriffe, the 'Valhalla' will proceed straight to her destination, and will visit the various islands of the Greater and Lesser Antilles. The 'Valhalla' is expected to return to Cowes about the beginning of June.

Birds in the Curtis Museum, Alton, Hants.—Two members of the B. O. U. who have recently paid a visit to the "Curtis Museum" at Alton do not give us a very satisfactory account of the condition of the collection of Birds there. It is a pity that this collection should be neglected, because it contains examples of a good many local species, and Alton is only four miles distant from Selborne, which is, of course, a place of predominant interest to naturalists. Our friends report to us that the whole series of birds, which consists of some three hundred specimens mounted and kept in glass cases, requires to be cleaned up, labelled, and rearranged. It would be desirable to have the scientific as well as the English names attached to the new labels, which should, moreover, be *in print.* There is a fine specimen of an Owl among them, which is labelled "Snowy Owl from Scotland," but is certainly one of the Hawk-Owls, probably *Surnia funerea,* and there are other specimens wrongly named. As there are several members of the B. O. U. resident at Alton and in its neighbourhood, we trust that they will take this matter in hand without delay, as little appears to have been done to the Collection of Birds for the last few years.

The Chalkley Collection at Winchester College.—No ornithologist who goes to Winchester should fail to inspect the collection of birds in the Memorial Buildings at the College, which was formed by Mr. W. Chalkley and acquired by the College three years ago. With the assistance of the Rev. J. E. Kelsall, Dr. Fearon (the late Head Master) has prepared and printed a catalogue of it, which contains the names of 145 species, arranged according to the B. O. U. List, with a few terse remarks on each of them. "Care has been taken that no single bird should be included that has not been actually found in the County." Fourteen "*Aves desideratæ*" are specified, among which are some (Whinchat, Redstart, and Tree-Pipit) that might be easily provided by residents in Hampshire.

Hart's Museum, Christchurch.—We are glad to be able to state that a strong effort is being made to secure the continued existence of Mr. Hart's well-known collection at Christchurch, in Hampshire, as a public Museum. A conditional arrangement has been made by the town of Bournemouth, where a free site will be provided, and a very influential Committee has been appointed to carry out the plan. The Corporation of Bournemouth has also agreed to contribute one-half of the price of its acquisition, and the remainder is being raised by public subscription. The Honorary Treasurer of the fund to be provided for this purpose is Mr. Durance George, National Provincial Bank of England, Bournemouth, who will be glad to receive contributions. The scheme deserves the support of all ornithologists, as the principal feature of the Museum, although it contains other objects of natural history, is the large series of mounted birds, mostly obtained by Mr. Edward Hart himself in the New Forest and adjoining districts, which fills about 420 cases and contains some 1350 specimens. A catalogue of the collection was printed at Southampton in 1894. It enumerates specimens of 281 species, and is arranged according to the B. O. U. List.

Proposed Experiment on Bird-migration.—We are requested by Herr J. Thienemann, the Director of the Ornithological Station at Rossitten, on the Baltic coast of East Prussia (*cf.* Bull. B. O. C. xi. p. 68), to call the attention of British ornithologists to an experiment, as regards the migration of birds, which it is proposed to carry on there. Every year during the two migration-seasons hundreds, and, in some years, thousands, of Crows (*Corvus corone* and *C. frugilegus*) are caught alive in nets by the fowlers at Rossitten. These birds are to be liberated, each with a small metal ring bearing a number and date attached to one foot. Persons who capture or kill any of these marked birds are requested to return the foot and ring to the "Vogel-warte, Rossitten, East Prussia," sending with them an exact note of the date and place at which the bird was shot or captured. It is quite possible that some of these birds may wander as far as the shores of Great Britain. If this should happen we hope that Herr Thienemann's request may be complied with.

A record will be kept at Rossitten of the feet and rings returned, and it is expected that some useful information on the migration of birds may result from this experiment.

Proposed new General Work on Birds.—M. P. Wytsman (of 108 Boulevard du Nord, Brussels) has sent us the prospectus of a new work to be called 'Genera Avium,' and to be carried out on the same plan as his 'Genera Insectorum,' which is now in course of issue. The size adopted will be a large quarto, "each family of birds being published separately with separate pagination." It will be illustrated by plain and coloured plates, and will be written in English. M. Wytsman claims to have secured the assistance of a "Committee of the best Ornithologists in the world." The issue of the 'Genera Avium' will be commenced as soon as the names of 150 subscribers have been received.

Bertoni's 'Aves nuevas del Paraguay.'—Through the kindness of our much-esteemed correspondent, Dr. H. von Ihering, of São Paulo, Brazil, we have now received a copy of this memoir, a critique on which, by Señor Arribalzaga, has been noticed in a preceding number ('Ibis,' 1903, p. 606). We think that enough has been said about this production; but possibly M. Bertoni can justify his statements by sending a set of his birds from the Upper Paraguay (where he made, no doubt, a good collection) to one of the principal Museums of Europe for correct determination. We have little doubt that our fellow-workers at South Kensington would undertake the task.

Obituary.—Dr. EDWARD HAMILTON. The late Edward Hamilton, M.D., F.L.S., V.P.Z.S., &c., though not a professed ornithologist, was a much esteemed Member of our Union, to which he was elected in 1886. He died at his London residence, 25 Redcliffe Gardens, South Kensington, on the 31st of August last, and will be missed by a large circle of friends and acquaintances, to whom he was endeared by his kind and genial disposition. Hamilton was born in 1815, and educated at Harrow and University College, London. Having been a pupil of the late well-known Dr. Quin, he took to homœopathy, and was for many years one of the most successful practitioners in that branch of Medicine. He had large sympathies with Science, and up to a very recent period was a constant attendant at many of the Scientific Institutions of the West End. At the Councils and Meetings of the Zoological Society of London he was a well-known figure, and was one of the Vice-Presidents of the Society for more than thirty years. In 1890 Hamilton published a popular scientific work called 'The Riverside Naturalist,' in which the various forms of life met with on streams and rivers were described, and in 1896 a volume on the 'Wild Cat of Europe.' He was also the editor of 'Records of Sport in Southern India,' extracted from the journals of his brother, the late Col. Douglas Hamilton, a well-known Indian sportsman.

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XII.—*On a Collection of Birds from the Neighbourhood of Port St. Johns, in Pondoland.* By GUY C. SHORTRIDGE. *With a Preface and Notes by* W. L. SCLATER, Director of the South African Museum.

[So far as I am aware, no collections have hitherto been made in the district of Pondoland, which forms the most easterly portion of Cape Colony, and adjoins Natal.

At my suggestion, therefore, Mr. Guy Shortridge proceeded to Port St. Johns, which is situated at the mouth of the St. Johns River, and spent the greater part of a year there, making, on behalf of the South African Museum, extensive collections in Natural History, chiefly of birds and mammals, which have now reached us safely. Very few lists of birds from the different parts of South Africa have hitherto been published, so that our knowledge of the local distribution of species in this wide area is still very incomplete. I have therefore thought that it might be useful to give a full list of the birds obtained and observed on this occasion, together with certain details and the remarks of the collector.

As would naturally be expected, the avifauna of Pondoland shews considerable resemblance to that of Natal, and Mr. Shortridge has been so fortunate as to obtain examples of seven species hitherto unrecorded from Cape Colony:

these are *Phyllostrephus flavo-striatus*, *Acrocephalus arundinaceus*, *Muscicapa cærulescens*, *Dicrurus ludvigi*, *Thripias namaquus*, *Cuculus canorus*, and *Ardetta minuta*. Of these seven birds, the European Cuckoo and the Little Bittern had not been previously recorded south of Potchefstroom, though the other five were known to occur in Natal or Zululand.

The present list contains the names of nearly two hundred species. Examples of one hundred and seventy of these were obtained, and are now deposited in the South African Museum; while of about thirty others, chiefly large and conspicuous birds, specimens were not preserved. The latter are marked in the list with an asterisk.

The arrangement and nomenclature of this list are those of the "Birds" of the 'Fauna of South Africa,' so far as it is completed. In the remaining families the references are to Sharpe and Layard's 'Birds of South Africa,' unless some other authority is stated.—W. L. S.]

1. CORVULTUR ALBICOLLIS Lath.; Stark, i. p. 10.

(1) 1.9.02. ♂. Iris dark brown; legs black; bill black, tipped with white. In the stomach, egg-shells, animal fur, mealies and other vegetable matter.

(2) 1.9.02. ♀. In the stomach, a small rat and mealies.

A very common resident, generally seen by day in pairs, which gather together in flocks towards the evening, and roost among the rocks.

2. *CORVUS SCAPULATUS Daud.; Stark, i. p. 12.

Rare at Port St. Johns; only an occasional pair being seen, often in company with *Corvultur albicollis*.

3. CORVUS CAPENSIS Licht.; Stark, i. p. 14.

(1) 11.1.02. ♂. Iris dark brown; bill black; legs black. In the stomach, mealies and insects.

This Crow is fairly plentiful a few miles inland, generally living in pairs, but sometimes assembling in small flocks of four or five individuals, and frequenting cultivated lands. It nests singly in low trees on the borders of woods.

4. Amydrus morio (Linn.); Stark, i. p. 26.

(1) 24.11.01. ♂. Iris hazel; bill black; legs black. In the stomach, Cape gooseberries and wild figs.

Resident and very common; gregarious, except in the breeding-season, when it nests among the rocks.

The iris of the adult male is dark red.

5. Lamprocolius phœnicopterus (Swains.); Stark, i. p. 38.

(1) 25.11.01. ♂. Iris orange; legs black; bill black. In the stomach, wild berries.

This bird is fairly plentiful at certain times of year. It is gregarious, forming small flocks of about ten members, and frequenting the scrubby bush.

6. Lamprocolius melanogaster (Swains.); Stark, i. p. 42.

(1) 20.12.01. ♀. Iris orange; legs black; bill black. In the stomach, wild figs and coleoptera.

(2) 11.1.02. ♂.

(3) 23.7.02. ♀. Iris orange-yellow. In the stomach, berries.

This is a very common bird, often flying about in flocks of some hundreds, and frequenting the thick forests and open country.

The colour of the iris differs according to the age of the individual, varying from hazel to pale green or orange.

7. Oriolus larvatus Licht.; Stark, i. p. 51.

(1) 17.11.01. ♀. Iris crimson; bill flesh-coloured; legs blue-grey. In the stomach, orthoptera and wild figs.

(2) 22.12.01. ♀.

A common bird, keeping in pairs throughout the year. It is often seen in company with or following flocks of *Lamprocolius melanogaster*. It feeds among the high trees.

8. Hyphantornis spilonotus (Vigors); Stark, i. p. 60.

(1) 28.8.02. ♂. Iris orange-red; bill black; legs brownish pink. In the stomach, mealies.

(2) 17.9.02. ♀. Iris hazel: legs light brown; bill with the upper mandible black, the lower brown.

Very common and gregarious, frequenting the reeds on the rivers during the winter.

9. Hyphantornis subaureus (Smith); Stark, i. p. 63.

(1) 22.11.01. ♂. Iris red; legs flesh-coloured; bill black. In the stomach, mealies and seeds.

(2) 22.11.01. ♀. Iris hazel; bill flesh-coloured, upper mandible tipped with black.

(3) 27.2.02. Iris hazel; bill and legs light brown.

(4) 8.8.02. ♂. Iris orange-red.

This is a fairly plentiful resident, which is more or less gregarious and nests among the reeds on the banks of the rivers. The female has not been correctly described by Stark. It is entirely of a dull greenish yellow, except on the breast, which in some cases is almost as bright yellow as in the male. In the female the back is streaked with dusky brown; in the male the back is bright greenish yellow and the crown bright yellow.

10. Sitagra ocularia (Smith); Stark, i. p. 66.

(1) 20.4.02. ♀. Iris reddish white; bill black; legs light slaty blue. In the stomach, insects.

(2) 30.4.02. ♂.

Fairly plentiful, taking the place of *Sycobrotus bicolor* in the scrubby bush-country; resident and still more plentiful during the breeding-season. The nest and eggs of this bird were obtained.

11. Sitagra capensis caffra (Licht.); Stark, i. p. 70.

(1) 11.1.02. ♀. Iris red; bill dark slate-coloured; legs flesh-coloured. In the stomach, insects.

(2) 6.11.02. ♀. Bill slaty black. In the stomach, coleoptera.

This Weaver-bird seemed to be fairly plentiful. The first specimen was shot in company with a small flock of *Hyphantornis spilonotus*. The second was obtained in mimosa-scrub during the nesting-season, when the birds were observed in pairs.

12. Sycobrotus bicolor (Vieill.); Stark, i. p. 72.

(1) 20.11.01. ♀. Iris brown; bill slaty blue; legs light slaty blue. In the stomach, insects.

Resident and very common in the thick bush, keeping in pairs throughout the year.

13. Amblyospiza albifrons (Vigors); Stark, i. p. 80.

(1) 19.12.01. ♂. Iris hazel; bill black; legs black. In the stomach, insects and seeds.

(2) 21.12.01. ♀. Bill dull yellow, upper ridge brown, tipped with black.

(3) 19.3.02. Jr. Legs light slaty blue.

(4) 19.10.02. ♂. Legs brown. In the stomach, Kaffir corn.

Resident and plentiful in damp localities, where it nests among the reeds on the banks of the rivers. The nest and eggs were obtained in December.

14. Lagonosticta rubricata (Licht.); Stark, i. p. 92.

(1) 1.5.02. ♂. Iris black; legs slate-brown; bill with the upper mandible slate-black, the lower light slate-coloured, pink underneath. In the stomach, seeds.

Fairly common, but seemingly more plentiful during the winter months. It frequents thick undergrowth and long grass, and is more or less social in its habits, though it never flies about in flocks like *Estrilda astrilda*.

15. Estrilda astrilda (Linn.); Stark, i. p. 98.

(1) 21.1.02. ♀. Iris brown; bill red; legs dark brown. In the stomach, small seeds.

Common and gregarious, frequenting the open grass-country.

16. Estrilda dufresnii (Vieill.); Stark, i. p. 107.

(1) 7.5.02. Iris hazel; legs black; bill with the upper mandible black, the lower red.

Resident, but not plentiful, found in pairs. After the nesting-season is over the young birds collect in small flocks, and frequent the scrubby bush and long grass.

17. Spermestes scutatus (Heuglin); Stark, i. p. 112.

(1) 26.11.01. ♀. Iris hazel; legs black; bill with the upper mandible black, the lower slate-blue. In the stomach, seeds.

(2) 12.5.02. Jr. Legs dark slate-coloured; bill slate-brown.

A common resident, gregarious and frequenting the open country. Eggs were obtained.

18. *Pyromelæna oryx (Linn.); Stark, i. p. 126.

Very rare at Port St. Johns.

19. Urobrachya axillaris (Smith); Stark, i. p. 134.

(1) 21.11.01. ♂. Bill blue-grey; legs black; iris dark brown. In the stomach, grain and seeds.

(2) 24.11.01. ♀. Bill flesh-coloured; legs flesh-coloured.

(3) 4.6.02. ♂ (winter plumage). Iris brown; legs brown.

A very common resident, which is gregarious and frequents open swampy country and reeds on the banks of rivers.

20. Coliopasser ardens (Bodd.); Stark, i. p. 142.

(1) 30.11.02. ♂. Iris dark brown; bill black; legs black. In the stomach, small seeds.

(2) 14.12.01. ♂.

This bird is not plentiful; it frequents swampy localities.

21. Vidua principalis (Linn.); Stark, i. p. 145.

(1) 4.12.01. ♂. Iris hazel; bill pink; legs black. In the stomach, small seeds.

(2) 11.12.01. Jr. Bill black; legs brown.

Resident and fairly plentiful on the open flats. Polygamous.

22. Poliospiza gularis (Smith); Stark, i. p. 165.

(1) 1.5.02. Iris hazel; bill light brown; legs brown.

(2) 21.7.02. ♀.

Resident, but not plentiful; sometimes met with in small flocks in company with *Serinus sulphuratus*.

23. Serinus sulphuratus (Linn.); Stark, i. p. 169.

(1) 27.2.02. ♂. Iris brown; bill light brown; legs dark brown. In the stomach, grass and seeds.

(2) 4.3.02. ♂.

Resident and fairly plentiful; more or less gregarious. It frequents the open bush-country.

24. Serinus icterus (Bonn.); Stark, i. p. 173.

(1) 4.12.02. ♀. Iris dark brown; legs flesh-coloured; upper mandible dark slate-coloured, lower light slate-coloured.

This is a very common bird, often found in flocks, and feeding in the old mealie-gardens. A nest and eggs were obtained in November.

25. Serinus scotops (Sundev.); Stark, i. p. 177.

(1) 17.1.02. ♂. Iris hazel; legs brown; bill brown, darker above. In the stomach, small seeds.

Resident and very common, frequenting higher trees than *S. icterus*. It is gregarious during the winter months, when the flocks resort to the tops of the hills.

26. Macronyx capensis (Linn.); Stark, i. p. 238.

(1) 17.1.02. ♀. Iris brown; legs light brown; bill dark brown above, slaty below. In the stomach, orthoptera and coleoptera.

This is a rare bird; one specimen was found in company with several individuals of *M. croceus*.

27. Macronyx croceus (Vieill.); Stark, i. p. 239.

(1) 21.7.02. ♀. Iris hazel; legs light brown; bill above dark brown, beneath bluish white, tipped with dark brown. In the stomach, coleoptera.

Resident and plentiful in the flat open country. It flies, when disturbed, to the tops of low bushes.

28. Anthus pyrrhonotus (Vieill.); Stark, i. p. 250.

(1) 14.12.01. Iris dark brown; legs light brown: the bill has the upper mandible black with the lower ridge yellow, the lower mandible yellow. In the stomach, flies and beetles.

(2) 11.9.02. ♀. Iris hazel.

Not plentiful, but sometimes met with in flocks, which frequent the hills.

29. Anthus rufulus (Vieill.); Stark, i. p. 251.

(1) 2.9.02. ♂. Iris dark brown; legs light brown; bill above black, below yellow.

One specimen was obtained in the open country; it was flying about with a small flock of *Motacilla capensis*.

30. Motacilla vidua Sund.; Stark, i. p. 255.

(1) 17.2.02. ♂. Iris dark brown; bill and legs black.
(2) 3.3.02. ♀.

Very plentiful in the district of St. Johns, but never found far from running water. These birds often collect in flocks of about ten towards the evening, but go about in pairs during the day-time.

31. Motacilla longicauda Rüpp.; Stark, i. p. 257.

(1) 17.11.01. ♀. Iris dark hazel; legs light slate-coloured; bill black, lower mandible beneath slate-coloured. In the stomach, small water-insects and their larvæ.

Resident and met with in pairs, but not frequenting the small forest-streams. On Dec. 17, 1901, a nest with three eggs was obtained. It was built on a ledge of some rocks overhanging a small stream in the thick bush.

32. Motacilla capensis Linn.; Stark, i. p. 259.

(1) 11.2.02. ♀. Iris dark brown; legs and bill black.
(2) 25.0.02. ♀.

Resident and very common; more or less gregarious, except in the nesting-season. It does not generally frequent water, but is often seen feeding in flocks on ploughed land and among cattle. A nest with three eggs was obtained on Oct. 10, 1902.

33. Promerops gurneyi Verreaux; Stark, i. p. 273.

(1) 15.6.02. ♂. Iris hazel; bill and legs black.

This bird is resident, but rather local, frequenting the sugar-trees on the tops of the hills and apparently increasing in numbers during the winter months. The males seem to be much more plentiful than the females.

[This species has not previously been recorded within the limits of Cape Colony.—W. L. S.]

34. Nectarinia famosa (Linn.); Stark, i. p. 276.

Three males and two females, 4.5.02. Iris black-brown; bill black; legs black.

Not plentiful near St. Johns.

35. Cinnyris chalybeus (Linn.); Stark, i. p. 284.

(1) 15.11.01. Iris black; bill and legs black. In the stomach, small arachnids.

This is a very common bird, but seems to be more plentiful during the summer months.

36. Cinnyris amethystinus (Shaw); Stark, i. p. 287.

(1) 14.12.01. ♂. Iris black, bill and legs black. In the stomach, arachnids.

This is a very common resident. It is usually found among sugar-trees in the hilly country.

37. Cinnyris verreauxi (Smith); Stark, i. p. 291.

(1) 19.11.01. ♂. Iris black; bill and legs black.

This is a fairly common resident in the open bush-country. The female and young differ from the male in having no red pectoral tufts.

38. Cinnyris olivaceus Smith; Stark, i. p. 292.

(1) 17.12.01. ♀.

Iris black; bill and legs black.

This is a very common resident in the banana-plantations near the coast. The female differs from the male in having no orange patch on the throat. The young birds are paler in colour, without the yellow pectoral tufts, and with the throat light greenish grey.

39. Anthothreptes collaris (Vieill.); Stark, i. p. 297.

(1) 17.12.01. ♂. Iris dark hazel; bill and legs black. In the stomach, small homoptera.

(2) 20.12.01. ♀. In the stomach, small berries, seeds, and egg-cases of insects.

This is a very common resident in the low bush-country near the coast.

40. Zosterops virens Bp.; Stark, i. p. 301.

(1) 19.1.02. ♂. Iris brown; legs slate-coloured; bill black, lower mandible slate-coloured at the base. In the stomach, berries.

(2) 20.1.02. ♀. In the stomach, wild fig.

(3) 1.5.02. ♂.

A very common resident, gregarious in habits.

41. **Parus niger** Bonn.; Stark, i. p. 307.

(1) 6.12.01. ♂. Iris hazel; legs blue-black; bill black. In the stomach, insects.

This Tit is resident, but not plentiful. It frequents high trees, and nests in the hollows of them.

42. **Lanius collurio** Linn.; Stark, ii. p. 11.

(1) 30.11.01. ♀. Iris hazel; bill dark slate-coloured; legs slate-coloured.

A rare species in Pondoland: only one specimen being obtained in the thick bush.

43. **Telephonus senegalus** (Linn.); Stark, ii. p. 19.

(1) 7.1.02. ♀. Iris hazel; legs light slate-coloured; bill black. In the stomach, orthoptera.

(2) 25.6.02. ♂.

Common and resident; chiefly met with in the mimosa-bush.

44. **Telephonus tchagra** (Vieill.); Stark, ii. p. 21.

(1) 26.7.02. Iris dark brown; bill black; legs light slate-blue. In the stomach, orthoptera.

(2) 26.9.02.

This Bush-Shrike is not plentiful; it lives in the very thickest bush, and spends most of its time on the ground.

45. **Dryoscopus cubla** (Shaw); Stark, ii. p. 25.

(1) 22.11.01. ♀. Iris orange; legs pale blue; bill black. In the stomach, orthoptera.

(2) 17.12.01. ♂. In the stomach, caterpillars and orthoptera.

Resident and very common in the thick bush.

46. **Dryoscopus ferrugineus** (Gmel.); Stark, ii. p. 27.

(1) 14.4.02. ♀. Iris dark hazel; legs slate-coloured; bill slaty black.

(2) 14.4.02. ♀ jr. In the stomach, orthoptera.

(3) 7.9.02. ♂. Bill black.

Resident and very common in the thick bush. The young birds are entirely dark olive-brown.

47. Laniarius rubiginosus (Sund.); Stark, ii. p. 37.

(1) 17.11.01. ♀. Iris hazel; bill black; legs slate-coloured. In the stomach, hairy caterpillars.

(2) 21.11.01. ♂.

Not common, only two examples having been seen.

48. Laniarius olivaceus (Shaw); Stark, ii. p. 38.

(1) 30.4.02. Iris brown; legs slaty blue; bill slate-coloured. In the stomach, coleoptera and orthoptera.

(2) 21.5.02. ♂. Bill above slaty black.

A rare bird which frequents marshy land. Only three specimens were seen.

49. Laniarius starki W. Scl.; Stark, ii. p. 41.

(1) 15.11.01. ♀. Iris yellow; bill black; legs pale blue. In the stomach, coleoptera.

(2) 9.12.01. ♂. In the stomach, cicadas.

(3) 1.5.02. In the stomach, orthoptera.

Resident, but not plentiful.

50. Pycnonotus layardi Gurney; Stark, ii. p. 63.

(1) 15.11.01. ♂. Bill black; iris dark brown; legs black. In the stomach, caterpillars.

(2) 17.11.01. ♀.

Very common and resident.

51. Andropadus importunus (Vieill.); Stark, ii. p. 65.

(1) 5.12.01. ♂. Iris pale yellow; bill and legs black. In the stomach, wild figs.

(2) 22.12.01. ♂. Legs dark brown.

A very common resident, often seen in small flocks of from six to ten.

52. Phyllostrephus capensis (Sw.); Stark, ii. p. 71.

(1) 18.2.02. ♀. In the stomach, berries and arachnids. Iris hazel; legs slate-coloured; bill slaty brown, with the edges of the mandibles yellowish.

(2) 4.4.02.

This is a very common resident. It feeds almost entirely among the dead leaves in the thick bush.

53. PHYLLOSTREPHUS FLAVO-STRIATUS (Sharpe); Stark, ii. p. 73.

(1) 18.2.02. ♀. Iris brown; bill black; legs slate-coloured. In the stomach, berries and insects.

This bird is common, but uncertain in its appearance. It goes about in small flocks and climbs trees in search of insects, never feeding on the ground like *P. capensis*.

[This species has not been previously recorded south of Zululand.—W. L. S.]

54. PHYLLOSCOPUS TROCHILUS (Linn.); Stark, ii. p. 84.

(1) 22.2.02. ♂. Iris hazel; bill light brown; legs yellowish brown.

This is a rare bird in Pondoland.

55. ACROCEPHALUS ARUNDINACEUS (Linn.); Stark, ii. p. 88.

(1) 1.4.02. Iris hazel; legs slate-coloured; bill slaty brown.

A rare species. It is easily distinguished in life from other reed-birds by its loud call-notes, but is shy, hiding, when disturbed, among the reeds.

[This bird has not been previously recorded from the Cape Colony, though it may probably occur there in other suitable situations.—W. L. S.]

56. PHLEXIS sp. inc.

(1) 20.9.02. Iris hazel; bill slate-black; legs flesh-coloured.

This bird is found among reeds in marshes; it is very shy, hiding at once when disturbed.

The single specimen obtained was very badly shot, so that its identity is doubtful.

57. BRADYPTERUS BRACHYPTERUS (Vieill.); Stark, ii. p. 99.

(1) 2.5.02. ♂. Iris hazel; legs dark slaty; bill above brown, below flesh-coloured.

(2) 3.5.02. ♂.

This bird is plentiful in the places where it occurs, as among reeds on the banks of rivers, but it seems to stay with us only for a few months.

58. Camaroptera olivacea (Vieill.); Stark, ii. p. 112.

(1) 4.12.01. ♀. Iris dark hazel; bill black; legs flesh-coloured.

(2) 4.7.02.

Resident and very common in the thick bush, generally in damp localities.

59. Cryptolopha ruficapilla (Sund.); Stark, ii. p. 119.

(1) 3.3.02. ♂. Iris hazel; legs brown; bill with the upper mandible black, the lower yellow.

(2) 20.4.02.

This is a fairly plentiful species, similar in habits to *Anthothreptes collaris*, and often seen with it, frequenting the thick bush.

60. Apalis thoracica (Shaw et Nodd.); Stark, ii. p. 121.

(1) 17.11.01. ♂. Iris greenish white; bill black; legs flesh-coloured.

(2) 17.12.01. ♂.

Resident, and common in the thick bush.

61. Chlorodyta neglecta (Alex.); Stark, ii. p. 126.

(1) 15.12.01. ♂. Iris light hazel; legs brown; bill black.

This species is not plentiful; it frequents the tangled bush and mimosa-thorn, living in pairs.

62. Prinia hypoxantha (Ayres); Stark, ii. p. 132.

(1) 25.2.02. Iris hazel; bill black; legs flesh-coloured.

This is a rare species.

63. Prinia mystacea (Rüpp.); Stark, ii. p. 135.

(1) 5.3.02. ♀. Iris hazel; legs flesh-coloured; bill with the upper mandible brown, the lower yellow.

Resident and very common; frequenting certain damp wooded localities in large numbers.

64. Prinia sp. inc.

(1) 23.12.01. ♀. Iris hazel; bill black; legs flesh-coloured.

This species differs in habit from *P. mystacea* in frequenting open marsh-country and resorting to reeds on the banks of streams. It has a black bill and is much darker above, being dusky brown instead of yellowish. Moreover, the pale tips of the tail-feathers are much more pronounced, and the tail-feathers themselves are much shorter.

[These specimens seem to me to be *P. mystacea* in summer plumage.—W. L. S.]

65. Cisticola fulvicapilla (Vieill.); Stark, ii. p. 141.

(1) 28.12.01. ♀. Iris hazel; bill brown; legs light brown.

The specimen was obtained in long grass in company with *C. aberrans*.

66. Cisticola aberrans (Smith); Stark, ii. p. 143.

(1) 28.12.02. ♂. Iris hazel; legs flesh-coloured (brownish); bill with the upper mandible brown, the lower grey.
(2) 11.2.02. ♂.
(3) 17.7.02. ♀.

Common in the long grass; generally seen in dry localities.

67. Cisticola tinniens (Licht.); Stark, ii. p. 147.

(1) 1.9.02. ♂. Iris hazel; bill black, lighter below; legs light brown.
(2) 7.9.02. ♀.

Plentiful in certain localities among the long grass in marshy flats, but local, and uncertain in appearance.

68. Cisticola terrestris (Smith); Stark, ii. p. 149.

(1) 10.4.02. Iris hazel; legs flesh-coloured; bill flesh-coloured, upper mandible black above.
(2) 21.7.02. ♀.

Plentiful in the grassy country, taking short flights when disturbed and hiding in the grass like a Lark.

69. Cisticola natalensis (Smith); Stark, ii. p. 155.

(1) 18.1.02. ♂. Iris light brown; legs flesh-coloured; bill black.
(2) 19.1.02. ♀.
(3) 7.9.02. ♀. Iris yellowish brown; bill with the upper mandible brown, the lower flesh-coloured.
(4) 23.9.02. ♂.

The first two specimens were found in dry grassy country on the tops of hills, the latter two on swampy flats.

This is a common resident species.

70. Sphenœacus intermedius Shelley; Stark, ii. p. 168.

(1) 6.9.02. ♀. Iris dark red; legs light slaty blue; bill with the upper mandible dark brown, the lower light slaty blue.

This bird is not common; it frequents marshy country and is gregarious.

71. Turdus guttatus Vigors; Stark, ii. p. 172.

(1) 7.2 02. Jr. Iris dark brown; legs flesh-coloured; bill slate-coloured, ridge of upper mandible black.

(2) 8.9.02. ♂. Bill pinkish slate-coloured. In the stomach, myriapoda.

(3) 8.9.02. ♀.

Resident, but not plentiful, and very shy, seldom leaving the thick undergrowth. It makes the same scratching noise among the dead leaves as *Turdus olivaceus*, *Phyllostrephus capensis*, and *Ædonopsis signata*.

72. Turdus olivaceus Linn.; Stark, ii. p. 175.

(1) 23.11.01. ♂. Iris dark brown; legs pale yellow; bill yellow, ridge of upper mandible black. In the stomach, worms.

(2) 23.12.01. ♂. Iris hazel. In the stomach, orthoptera and cicadas.

This is a very common resident species.

73. Monticola rupestris (Vieill.); Stark, ii. p. 181.

(1) 3.1.02. ♂. Iris hazel; bill black; legs dark brown. In the stomach, orthoptera.

(2) 3.6.02. ♀. Bill slate-black. In the stomach, seeds of wild bananas.

This bird is plentiful, generally frequenting rocky situations. It is most common on the sea-coast.

74. Pratincola torquata (Linn.); Stark, ii. p. 190.

(1) 24.7.02. ♂. Iris dark brown; bill black; legs black.

Not common, but occurs occasionally in the mimosa-bush country.

75. Saxicola familiaris Stephens; Stark, ii. p. 201.

(1) 27.1.02. ♂. Iris dark brown; legs black; bill dark brown. In the stomach, coleoptera.

Found on the tops of the hills, but not plentiful.

76. Cossypha bicolor (Sparrm.); Stark, ii. p. 209.

(1) 9.12.02. ♂. Iris hazel; bill black; legs flesh-coloured. In the stomach, insects.

(2) 28.1.02. ♀.

(3) 28.9.02. ♂. Legs bluish flesh-coloured. In the stomach, coleoptera.

Not plentiful, and usually heard only at dusk. It frequents the dense woods, and often imitates the cry of the Emerald Cuckoo.

77. Cossypha caffra (Linn.); Stark, ii. p. 213.

(1) 25.8.02. ♀. Iris black-brown; bill black; legs dark brown.

A rare bird in the St. Johns district.

78. Cossypha signata Sund.; Stark, ii. p. 215.

(1) 7.1.02. ♀. Iris hazel; bill black; legs flesh-coloured. In the stomach, coleoptera and other insects.

(2) 8.9.02. ♂. Legs bluish flesh-coloured; iris dark brown.

Resident, but not plentiful; often seen in company with *Phyllostrephus capensis*, but more shy.

79. Tarsiger silens (Shaw); Stark, ii. p. 219.

(1) 22.7.02. ♀. Iris hazel; legs and bill black. In the stomach, insects.

(2) 26.7.02. ♀. Iris dark brown.

This bird is common during the winter months in the scrubby bush. The females are more plentiful than the males.

80. Muscicapa cærulescens (Hartl.); Stark, ii. p. 241.

(1) 3.3.02. ♂ jr. Iris brown; bill black; legs brown.

A resident species, fairly plentiful, and more or less gregarious.

[New to the avifauna of the Cape Colony.—W. L. S.]

81. Alseonax adusta (Boie); Stark, ii. p. 243.

(1) 22.11.01. ♀. Iris hazel; bill black; legs black.

(2) 9.12.01. ♂ jr. Legs brown.

This species is a very common resident. On October 30th, 1902, I found a nest with three eggs built on a ledge of rock in the thick forest.

82. Pachyprora capensis (Linn.); Stark, ii. p. 254.

(1) 22.11.01. ♂. Iris orange; legs black; bill black.

(2) 17.12.01. ♀. Iris crimson; legs slate-coloured; bill black.

A resident and very common species in tangled wooded country. The female differs from the male in having no black band on the chest. The iris is orange in the male and crimson in the female. The legs in the male are black, in the female slate-coloured.

83. Pachyprora molitor (Hahn & Küster); Stark, ii. p. 255.

(1) 11.9.02. ♂. Iris yellow; legs black; bill black.

This species, which is not common, takes the place of *P. capensis* in the mimosa-bush country. The female is identical in plumage with the male: it is described incorrectly by Stark as having no black on the chest. The immature birds only have rufous markings.

84. Trochocercus cyanomelas (Vieill.); Stark, ii. p. 259

(1) 27.3.02. Iris dark hazel; bill brown; legs slate-coloured.

Resident and fairly plentiful in the bush-country.

85. Terpsiphone perspicillata (Sw.); Stark, ii. p. 261.

(1) 15.11.01. ♂. Iris dark hazel; legs slaty blue; bill and eyelids bright blue.

(2) 23.9.02. ♂. Iris dark brown.

This is a common resident. I took two eggs in December 1901. The nest was cup-shaped, fastened with cobwebs near the end of a branch in the thick bush.

86. Dicrurus afer (Licht.); Stark, ii. p. 265.

(1) 15.11.01. ♂. Iris crimson; bill and legs black. In the stomach, coleoptera.

This is a very common resident. It is always active about dusk, when it feeds largely on night-flying coleoptera. The nest is cup-shaped, built among the branches of trees.

87. Dicrurus ludvigi (A. Smith); Stark, ii. p. 267.
(1) 7.1.02. ♂. In the stomach, coleoptera. Iris red; feet and bill black.
(2) 18.2.02. ♀.

Also resident, but not so plentiful as *D. afer*.

[New to the Avifauna of the Cape Colony.—W. L. S.]

88. Campophaga nigra (Vieill.); Stark, ii. p. 269.
(1) 20.9.02. ♂. Iris black; bill black, yellow at the gape; legs black.

Not common at St. Johns, but occasionally met with.

89. Campophaga hartlaubi (Layard); Stark, ii. p. 272.
(1) 21.7.02. ♀. Iris, bill, and legs black. In the stomach, orthoptera.

This species is not common at St. Johns. The specimen obtained may possibly be a female of *C. nigra*, but a male of *C. hartlaubi* was seen several days before in the same locality.

90. Graucalus cæsius (Licht.); Stark, ii. p. 275.
(1) 26.11.01. ♂. Iris black; legs and bill black. In the stomach, coleoptera.
(2) 31.12.01. ♂. Iris dark brown.

This is a common resident at St. Johns. When in a tree it will often climb along the branches. The feathers on the back are very loose, making it difficult to skin the bird.

91. Ptyonoprocne fuligula (Licht.); Stark, ii. p. 286.
(1) 25.8.02. ♀. Bill black; legs brown; iris black.
(2) 25.8.02. ♂.

A common resident, usually frequenting the tops of the hills; but coming down into the valleys in rough weather. It is more plentiful during the winter months.

92. Hirundo albigularis Strickl.; Stark, ii. p. 292.
(1) 29.8.02. ♀. Iris dark hazel; bill and legs black.
(2) 29.10.02. ♀.

Irregular in appearance and not plentiful. On one occasion (July 1902) it was very abundant after a storm. A few individuals seem to remain in the St. Johns district all the year round. A nest with two eggs was taken on October 29th ; it was similar to that of *H. rustica.*

93. HIRUNDO CUCULLATA Bodd. ; Stark, ii. p. 298.
(1) 8.9.02. Iris black-brown ; legs and bill black.
(2) 19.10.02. ♀. Legs brown.

Very common in the summer at St. Johns, but absent in the winter from about June to August. *H. cucullata* and *H. puella* leave us about the same time.

94. HIRUNDO PUELLA Temm. ; Stark, ii. p. 300.
(1) 25.2.02. ♂. Iris dark brown ; bill and legs black.
(2) 7.3.02. ♂.
(3) 4.11.02. ♀.

This is a very common species, more plentiful than *H. cucullata.* It nests in the houses.

95. PSALIDOPROCNE HOLOMELÆNA (Sund.) ; Stark, ii. p. 307.
(1) 2.2.02. ♂. Iris black ; legs brown ; bill black.
(2) 2.2.02. ♂.

This Swallow is resident and plentiful. It nests in holes in the cliffs.

96. IRRISOR VIRIDIS (Licht.) ; Stark et Scl. iii. p. 14.
(1) 21.11.01. ♀. Iris dark brown ; bill red ; legs red, claws brown. In the stomach, gryllidæ.
(2) 6.2.02. Jr. Iris hazel ; bill black ; legs flesh-coloured.
(3) 18.2.02. ♂.

A common resident ; gregarious in habits.

97. CYPSELUS AFRICANUS (Temm.) ; Stark et Scl. iii. p. 21.
This Swift is fairly plentiful ; it frequents the mountains, and flies higher than the other species of the genus.

98. CYPSELUS BARBATUS P. L. Scl. ; Stark et Scl. iii. p. 25.
(1) 27.1.02. ♀. Iris dark brown ; bill black ; legs dark brown.

This is a common resident species.

99. Cypselus caffer Licht.; Stark et Scl. iii. p. 25.

(1) 23.10.02. ♂. Iris dark brown; bill black; legs brown.

(2) 23.10.02. ♂.

This Swift is rather plentiful during the summer months. In the nesting-season it frequents the rivers, in the banks of which it nests. It arrives in October.

100. Caprimulgus europæus Linn.; Stark et Scl. iii. p. 32.

(1) 25.3.02. ♀. Iris black; bill black; legs brown. In the stomach, coleoptera.

This Nightjar is common at St. Johns during the summer months.

101. Coracias garrulus Linn.; Stark et Scl. iii. p. 46.

(1) 15.1.02. ♂. Iris dark brown: bill black; legs light brown. In the stomach, orthoptera.

(2) 20.1.02. ♀.

Rather rare near St. Johns: only two examples seen.

102. Ceryle rudis (Linn.); Stark et Scl. iii. p. 73.

(1) 27.11.01. ♀. Iris dark brown; legs and bill black. In the stomach, remains of fish.

Very common near St. Johns, and apparently more plentiful during the summer months. It frequents the rivers.

103. Ceryle maxima (Pallas); Stark et Scl. iii. p. 76.

(1) 4.6.02. ♂. Iris dark brown; bill black; legs dark brown. In the stomach, remains of fish.

Found on the rivers, but not plentiful.

104. Alcedo semitorquata Sw.; Stark et Scl. iii. p. 78.

(1) 25.1.02. ♀. Iris dark brown; bill black; legs orange-red; claws black. In the stomach, remains of fish.

This is a common resident species.

105. Corythornis cyanostigma (Rüpp.); Stark et Scl. iii. p. 81.

(1) 11.10.02. ♀. Iris brown; bill and legs orange-red. In the stomach, insects and occasionally remains of fish.

(2) 12.10.02. ♀.

This is a resident species and fairly plentiful.

106. Ispidina natalensis (Smith); Stark et Scl. iii. p. 83.

(1) 27.11.01. ♂. Iris black; bill and legs orange-red. In the stomach, orthoptera.

This is a very common species during the summer months. It is not confined to the river-banks.

107. Halcyon albiventris (Scop.); Stark et Scl. iii. p. 86.

(1) 4.12.01. ♂. Iris dark brown; bill and legs orange-red.

(2) 5.12.01. ♀. In the stomach, orthoptera.

This is a common resident species; it is not confined to the banks of streams.

108. Colius striatus (Gm.); Stark et Scl. iii. p. 95.

(1) 2.11.01. ♂. Iris black; legs pink-brown; bill with the upper mandible black, the lower light blue. In the stomach, wild figs.

(2) 2.12.01. ♀.

A very common resident, frequenting the scrubby bush-country in small flocks.

109. *Colius erythromelon Vieill.; Stark et Scl. iii. p. 99.

This is a rare bird here.

110. *Bucorax cafer Boc.; Stark et Scl. iii. p. 102.

This bird is not very common here. It is found in small flocks of from six to eight, feeding on the ground in the open country. It roosts in trees.

111. Bycanistes buccinator (Temm.); Stark et Scl. iii. p. 106.

(1) 15.12.01. ♂. Legs black; bill black; iris dark brown. In the stomach, papaws.

(2) 20.12.01. ♂. Iris yellow. In the stomach, wild figs.

This Hornbill is common and gregarious, taking the place of *Lophoceros melanoleucus* during the summer months and migrating in the winter.

112. LOPHOCEROS MELANOLEUCUS (Licht.); Stark et Scl. iii. p. 110.

(1) 25.11.01. ♂. Iris yellow; legs black; bill red. In the stomach, orthoptera.

(2) 6.12.01. ♀.

Very common and gregarious; most plentiful during the winter months.

113. HAPALODERMA NARINA (Steph.); Stark et Scl. iii. p. 121.

(1) 26.11.01. ♂ jr. Iris hazel; legs flesh-coloured: bill pale green. In the stomach, orthoptera.

(2) 7.1.02. ♂ jr. Iris dark brown; bill light slate-yellow; skin on throat flesh-coloured; skin round the eye greenish.

(3) 11.10.02. ♂. Iris reddish hazel; bill light slate-blue, yellowish at the gape; skin on the throat and round the eye blue; skin on the cheeks greenish blue. Contents of stomach, hairy caterpillars and coleoptera.

This Trogon is resident and fairly plentiful; it is quiet, but not at all shy, and frequents the thick bush.

114. CAMPOTHERA NOTATA (Licht.); Stark et Scl. iii. p. 129.

(1) 2.11.01. ♂. Iris dark brown; bill dark slate-coloured; legs greenish slate-coloured.

This is the most plentiful species of Woodpecker round Port St. Johns. It is a resident.

115. DENDROPICUS CARDINALIS (Gm.); Stark et Scl. iii. p. 135.

(1) 4.1.02. ♂. Iris crimson; legs greenish slate-coloured; bill dark slate-coloured.

(2) 7.1.02. ♀.

Fairly plentiful in the district.

116. THRIPIAS NAMAQUUS (Licht.); Stark et Scl. iii. p. 138.

(1) 2.11.01. ♀. Iris dull red; bill slaty, upper mandible tipped with black; legs slaty.

This is a rare species, and is not found near the coast, but occurs in the mimosa-bush about twelve miles inland from Port St. Johns.

[This bird has not hitherto been obtained south of Zululand.—W. L. S.]

117. MESOPICUS GRISEOCEPHALUS (Bodd.); Stark et Scl. iii. p. 140.

(1) 2.1.02. ♀. Iris dark hazel; legs slaty; bill with the upper mandible slate-coloured, the lower light blue.

Not plentiful.

118. *INDICATOR SPARRMANI Steph.; Stark et Scl. iii. p. 146.

Obtained by the Woodwards on the St. Johns River.

119. INDICATOR MINOR Stephens; Stark et Scl. iii. p. 152.

(1) 17.5.02. ♀. Iris hazel; bill dark brown; legs slaty. In the stomach, insects and beeswax.

(2) 25.8.02. ♀. Bill slaty black; lower mandible pink below.

Not plentiful in the district.

120. LYBIUS TORQUATUS (Dumont); Stark et Scl. iii. p. 157.

(1) 28.11.01. ♂. Iris hazel; bill and legs black.

(2) 20.10.02. ♂. Iris reddish brown. In the stomach, berries and coleoptera.

This is a common resident, living in pairs all through the year.

121. BARBATULA PUSILLA (Dumont); Stark et Scl. iii. p. 166.

(1) 11.1.02. ♂. Iris black; bill black; legs slaty. In the stomach, vegetable matter.

(2) 27.1.02. ♂. In the stomach, insects and berries.

Common in summer, and frequenting the tops of high trees, where it flies about singly. It is either migratory or silent during the winter months.

122. CUCULUS CANORUS Linn.; Stark et Scl. iii. p. 177.

(1) 26.3.02. ♀. Iris dull orange; legs yellow; bill with the upper mandible black, the lower yellowish black.

[The European Cuckoo has not previously been obtained south of the Transvaal, and is therefore a new bird to the Avifauna of the Cape Colony.—W. L. S.]

123. Cuculus solitarius Steph.; Stark et Scl. iii. p. 178.
(1) 25.11.01. ♂. Iris hazel; legs yellow; bill with the upper mandible black, the lower yellow.
(2) 6.12.01. Skin round the eye yellow. In the stomach, hairy caterpillars.

This Cuckoo is very common during the summer months, but leaves the district in winter, appearing again early in October. Its local name is "Will o' the Wisp," partly owing to its cry and partly to its being seldom seen, as it flies quietly, almost like an Owl.

124. Cuculus clamosus Lath.; Stark et Scl. iii. p. 182.
(1) 9.12.01. ♂. Iris dark brown; bill black; legs brown. In the stomach, hairy caterpillars.
(2) 14.12.01. ♂. Legs dark brown.

This Cuckoo is plentiful in the summer months. It leaves the district in winter, and reappears at the same time as *C. solitarius*.

125. Chrysococcyx smaragdineus (Swains.); Stark et Scl. iii. p. 185.
(1) 17.11.01. ♂. Iris dark brown; legs pale blue; bill greenish grey, tipped with black. In the stomach, insects (chiefly caterpillars).

A common bird during the summer months. *C. smaragdineus* and *C. klaasi* visit St. Johns in the spring, and arrive a few weeks earlier than the other Cuckoos. This species invariably utters its call from the top of a very high tree, where it is difficult to see it. *Barbatula pusilla* resembles it in this respect.

126. Chrysococcyx klaasi Steph.; Stark et Scl. iii. p. 186.
(1) 2.11.01. Iris hazel; legs slaty; bill black, lower mandible greenish underneath. In the stomach, insects and caterpillars.
(2) 4.11.01. ♂. Bill dull green.

This Cuckoo is plentiful during the summer months. It differs in habit from *C. smaragdineus* in that it generally calls while flying.

127. Chrysococcyx cupreus (Bodd.); Stark et Scl. iii. p. 189.

(1) 29.11.01. ♂. Iris pink; eyelids red; legs black; bill black, lower mandible grey below. In the stomach, hairy caterpillars.

This species is rare on the coast. It frequents the mimosa-bush country a few miles inland, but is not so plentiful as *C. klaasi.*

128. Coccystes serratus (Sparr.); Stark et Scl. iii. p. 199.

(1) 27.11.01. ♀. Iris hazel; bill black; legs black. In the stomach, hairy caterpillars.

Found occasionally in the mimosa-bush. The eggs are white.

129. Centropus burchelli Sw.; Stark et Scl. iii. p. 203.

(1) 5.1.02. ♀. Iris dull red; legs slaty blue; bill with the upper mandible black, the lower slate-coloured. In the stomach, orthoptera.

(2) 8.7.02. Iris crimson; bill slaty black. In the stomach, a frog and orthoptera.

This is a very common resident. It has a weak flight, and hides itself among thick undergrowth when disturbed.

130. Turacus corythaix (Wagler); Stark et Scl. iii. p. 213.

(1) 16.11.01. ♂. Iris hazel; bill red; legs black. In the stomach, berries.

(2) 9.12.01. ♀. Iris dark brown. In the stomach, wild figs.

This is a common resident, more or less gregarious. It generally feeds in the high fig-trees.

131. Pœocephalus robustus (Gm.); Stark et Scl. iii. p. 224.

(1) 23.1.02. ♂. Iris dark brown; bill greyish white; legs blue-grey. In the stomach, berries.

This is a plentiful bird. It flies high and rather swiftly when travelling, but is easily distinguished from other birds by its quickly flapping wings and continuous screaming.

132. STRIX FLAMMEA (Linn.); Stark et Scl. iii. p. 237.

(1) 21.7.02. ♀. Iris dark brown; bill flesh-coloured; legs grey-pink.

This Owl is not plentiful here.

133. SYRNIUM WOODFORDI (Smith); Stark et Scl. iii. p. 245.

(1) 18.1.02. ♀. Iris black; bill pale yellow; legs light brown.

This is the most common Owl round Port St. Johns.

134. *BUBO MACULOSUS (Vieill.); Stark et Scl. iii. p. 249.

This Owl is of occasional occurrence, but is not plentiful.

135. *GLAUCIDIUM PERLATUM (Vieill.); Stark et Scl. iii. p. 257.

This species is occasionally seen by day; it has conspicuous yellow eyes.

136. FALCO MINOR Bp.; Stark et Scl. iii. p. 268.

(1) 3.10.02. ♀. Iris dark brown; bill blue-black, yellowish at the base; legs yellow; skin round the eye yellow. In the stomach, remains of birds.

This swiftly flying Falcon is strong and heavy for its size, and very destructive to quails and poultry. The Pondos use it in its wild state for hawking-purposes. When they hunt quails they have a means of attracting the Falcon by a certain kind of whistle, which it follows. The quails, on seeing the Falcon, drop into the grass and allow themselves to be caught.

137. *TINNUNCULUS RUPICOLA (Daud.); Stark et Scl. iii. p. 277.

This Kestrel is fairly plentiful in the district of St. Johns.

138. BAZA VERREAUXI (Lafr.); Stark et Scl. iii. p. 287.

(1) 30.8.02. ♀. Iris yellow; legs pale yellow; bill black, cere pale yellow. In the stomach, locusts.

Not common near St. Johns.

139. Lophoaëtus occipitalis (Daud.); Stark et Scl. iii. p. 307.

(1) 7.5.02. Iris yellow; legs pale yellow; bill slaty tipped with black, cere yellow. In the stomach, several small field-mice (*Mus minutoides*).

(2) 1.9.02. ♂. In the stomach, several mice (*Mus colonus*).

This Eagle is resident and abundant, especially along the coast. It often hovers motionless over a certain spot, even with a strong wind blowing.

140. *Haliaëtus vocifer (Daud.); Stark et Scl. iii. p. 310.

Resident and fairly plentiful on the high cliffs around St. Johns, where it probably breeds. It is shy and difficult to approach.

141. *Helotarsus ecaudatus (Daud.); Stark et Scl. iii. p. 314.

This Eagle is very well known at St. Johns, and can be distinguished by its red legs a long way off. It is said to kill young goats and sheep.

142. Buteo jakal (Daud.); Stark et Scl. iii. p. 330.

(1) 21.9.02. ♂. Iris light chocolate-brown; legs yellow; bill dark slate-coloured, cere yellow. In the stomach, mice.

(2) 20.9.02. ♀. Iris yellow. In the stomach, lizards.

(3) 10.10.02. ♂. Bill slate-coloured, cere and gape yellow.

A resident and abundant species.

143. Milvus ægyptius (Gm.); Stark et Scl. iii. p. 336.

(1) 27.11.01. ♂. Iris dark brown; bill yellow; legs yellow. In the stomach, locusts.

This is a fairly plentiful species.

144. Elanus cæruleus (Desf.); Stark et Scl. iii. p. 339.

(1) 20.9.02. ♀. Iris bright crimson; legs yellow; bill black, cere yellow. In the stomach, mice.

This Hawk frequents open country, but is not very plentiful. Small birds do not seem to mob it, but are not afraid of it, though it is said to carry off small chickens and quail occasionally.

145. Accipiter minullus (Daud.); Stark et Scl. iii. p. 348.

(1) 25.11.01. ♀. Iris orange-red; legs yellow; bill black, cere yellow. In the stomach, myriapoda.

A common resident, said to do a certain amount of damage among the poultry.

146. Astur tachiro (Daud.); Stark et Scl. iii. p. 356.

(1) 16.1.02. ♂ (?). Iris yellow. In the stomach, insects.
(2) 15.3.02. ♂ (?). Iris dull grey; legs pale yellow; bill black, cere yellow.

Very common and resident, doing great damage in the poultry-yards.

147. Polyboroides typicus Smith; Stark et Scl. iii. p. 380.

(1) 4.11.02. ♂. Iris dark brown; bill black, cere and gape yellowish white; skin round the eye yellow; legs yellow.

This species is not plentiful. Its habits are like those of a Woodpecker, as it climbs up and down the trunks of trees after insects. Its much stiffened tail-feathers seem adapted to this mode of life.

148. *Pandion haliaëtus (Linn.); Stark et Scl. iii. p. 400.

The Osprey is not plentiful near St. Johns, but occasionally frequents the high cliffs on the east side of the river.

149. Vinago delalandii Bp.; S. & L. p. 558.

(1) 18.11.01. ♂. Iris greenish white; legs orange; bill greenish white, cere red. In the stomach, wild figs.

This Pigeon is common during the summer months; it is gregarious, and feeds almost exclusively on the wild fig-trees. During the winter it is absent.

150. Columba phæonota Gray; S. & L. p. 559.

(1) 26.11.01. Iris red and yellow; bill dark slate-

coloured, cere white; legs pink; skin round the eye dull crimson. In the stomach, mealies.

This is a fairly plentiful resident and more or less gregarious. It nests in the rocks.

151. *Columba arquatrix (Temm.); S. & L. p. 561.

This is a rare bird and irregular in its appearance. It is migratory, and visits St. Johns in the winter season.

152. Turtur semitorquatus Rüpp.; S. & L. p. 566.

(1) 17.2.02. ♀. Iris dark orange-red; bill black; legs crimson.

A common and resident species, which is gregarious during the winter months. It is not very plentiful near the coast, except where the country is open.

153. Turtur senegalensis Linn.; S. & L. p. 568.

(1) 28.3.02. Iris brown; bill black; legs pink.

Not common, but occasionally found in the mimosa-bush, about twelve miles inland.

154. Tympanistria bicolor Reichenb.

Tympanistria tympanistria S. & L. p. 571.

(1) 15.1.01. ♂. Iris dark brown; bill dark reddish brown; legs red-brown. In the stomach, berries.

This is a very common resident, feeding chiefly on castor-oil seeds when they are in season.

155. *Haplopelia larvata Temm.; S. & L. p. 564.

This Dove is rare, and only found in very thick bush.

156. *Francolinus levaillanti Temm.; S. & L. p. 596.

This Francolin is not plentiful; it generally frequents the hills near the coast.

157. *Francolinus natalensis Smith; S. & L. p. 592.

Also a rare species, found further inland than *F. levaillanti*.

158. Coturnix capensis.

Coturnix coturnix S. & L. p. 603.

(1) 11.7.02. ♂. Iris dull orange.

The Quail appears at St. Johns for a very short time in the year, about the end of July and August, but is then very common.

159. PODICA PETERSI Hartl.; S. & L. p. 625.

(1) 18.12.01. ♂. Iris hazel; legs orange-red; bill orange-red. In the stomach, crustacea.

(2) 26.12.01. ♂. Iris hazel; bill orange-red, brownish above.

(3) 2.3.02. ♀. Iris pale yellow; bill with the upper mandible dark brown, the lower orange-red.

This bird is not very plentiful; it is heavy and weak on the wing, and generally flies with its legs splashing up the water.

160. *HETEROTETRAX VIGORSI.

Otis scolopacea S. & L. p. 637.

Heterotetrax vigorsi Sharpe, Cat. B. xxiii. p. 296.

This Bustard is not common; it is said to be very tame and easy to approach.

161. ŒDICNEMUS VERMICULATUS Cab.; S. & L. p. 647.

(1) 2.4.02. Iris pale green; legs pale greenish grey; bill black, yellowish at the base.

(2) 2.4.02.

(3) 7.4.02. In the stomach, insects.

This is not a common bird. It appears in the early winter months on the St. Johns River, and is then met with in pairs. It seems to migrate up the river.

162. ÆGIALITIS TRICOLLARIS (Vieill.); S. & L. p. 662.

(1) 2.9.02. ♀. Iris yellowish brown, narrow; bill at the base pink, at the point black; legs bluish flesh-coloured; skin round the eye red.

(2) 6.9.02. ♂. Legs brown.

This Plover appears singly or in pairs during the winter months in marshy localities, but is not plentiful.

163. ÆGIALITIS MARGINATA (Vieill.); S. & L. p. 659.

(1) 23.12.01. ♀. Iris black; bill black; legs light slate-blue. In the stomach, crustacea.

(2) 2.9.02. ♂. Legs bluish flesh-coloured.

This is a resident species, very common on the sand-hills of the sea-shore.

164. Tringoides hypoleucus (Linn.); S. & L. p. 686.

(1) 11.12.01. ♂. Iris dark hazel; bill dark greenish slate-coloured; legs light greenish slate-coloured. In the stomach, insects.

(2) 11.12.01. ♀.

(3) 28.12.01. ♀. Legs pale green; bill dark brown, black above. In the stomach, small crustacea.

This is a very common species, and is often seen in small flocks on the banks of the rivers.

165. Totanus glareola (Linn.); S. & L. p. 690.

(1) 4.11.02. Iris black; bill black, yellowish below; legs dull greenish yellow.

A single specimen was obtained on a mud-bank in a small inland salt-pan.

166. Calidris arenaria (Linn.); S. & L. p. 684.

(1) 2.9.02. ♀. Iris black; bill and legs black.

The Sanderling comes to the sea-shore in flocks after rough weather at certain times of year.

167. Tringa minuta (Leisl.); S. & L. p. 681.

(1) 2.11.02. Iris black; bill black; legs dark greenish slate-coloured.

A single specimen was observed by the sea-coast along with a pair of Sanderlings.

168. Tringa subarquata (Güldenst.); S. & L. p. 682.

(1) 26.9.02. ♂. Iris black; bill black; legs black.

Once met with at the mouth of the St. Johns River after rough weather.

169. Sterna macrura Naum.

(1) 15.6.02. Bill black; legs dark red.

One specimen of this Tern was obtained on the coast after rough weather.

[The Arctic Tern is a rare bird in South Africa.—W. L. S.]

170. *Majaqueus æquinoctialis (Linn.); S. & L. p. 766.

(1) 13.6.02. [Identified from the skull.—W. L. S.]

171. Œstrelata macroptera (Smith); S. & L. p. 766.

(1) 13.6.02. ♀. Iris grey-black; bill black; legs black.

(2) 14.6.02.

Very common at sea, but never coming to the coast except after rough weather.

172. Œstrelata mollis (Gould); S. & L. p. 766.

(1) 11.6.02. ♂. Iris black; bill black; legs black and pink.

(2) 14.6.02. ♀.

Occasionally seen in flocks on the sea-shore at St. Johns after rough weather.

173. Prion banksi Gould; Salvin, Cat. B. xxv. p. 434.

(1) 15.6.02. ♂. Iris black; legs slate-blue; bill blue and slate-coloured.

This species is fairly plentiful on the coast after rough weather, when it is often driven miles inland.

174. *Diomedea melanophrys Temm.; S. & L. p. 772.

Fairly plentiful at sea off St. Johns. [This species has been identified from the skull.—W. L. S.]

175. *Hagedashia hagedash (Lath.); S. & L. p. 739.

(1) 25.2.02. ♀. Legs dark red-brown; bill dark brown, red above. In the stomach, insects and crustacea.

This Ibis is fairly common, especially during the winter months, when it is gregarious. At night it always roosts on certain trees, generally those overhanging the river, and it is then very easy to shoot specimens, as they seldom leave the trees for long. A few pairs stay to breed at St. Johns.

176. Ardea bubulcus Aud.

(1) 13.10.02. ♂. Iris pale yellow; bill pinkish yellow; legs yellowish brown. In the stomach, frogs and locusts.

(2) 12.10.02. ♂. In the stomach, locusts.

(3) 12.10.02. ♂. Skin round the eye flesh-coloured, tinged with blue.

The Buff-backed Egret is of uncertain appearance in the winter season, when it occasionally arrives in flocks.

177. *Ardea alba Linn.; S. & L. p. 714.

The Great White Egret is very rare at St. Johns.

178. Ardea melanocephala Vig. & Childr.; S. & L. p. 709.

(1) 29.3.02. ♀. Iris yellow; legs black; bill slate-coloured.
(2) 12.10.02. ♀. Bill black, at the base bluish green; skin round the eye bluish green.

This is a common resident, often met with in small flocks towards evening, when it roosts in the trees overhanging the water.

179. Ardea cinerea Linn.; S. & L. p. 708.

(1) 4.1.02.

Not common at St. Johns.

180. *Ardea purpurea Linn.; S. & L. p. 710.

The Purple Heron is not common at St. Johns. It has a heavier flight than *A. cinerea*, and seems to have shorter wings and a longer neck in proportion to its size.

181. *Ardea goliath Temm.; S. & L. p. 707.

A rare bird at St. Johns, and very shy.

182. Butorides atricapilla (Afzel.); S. & L. p. 719.

(1) 7.5.02. ♂. Iris yellow; legs green-grey; bill with the upper mandible dark green at the base, the lower mandible yellow, the upper ridge black.

Only two examples of this bird were seen. They were easy to approach, seldom taking long flights when disturbed. They were more or less crepuscular in their habits.

183. Ardetta minuta (Linn.).

(1) 21.1.02. ♂.

The Little Bittern is rare at St. Johns, and only two examples were seen. It has a slow and weak flight, moving away to a short distance when disturbed, and then hiding itself among the reeds, whence it is difficult to flush it a second time.

[*A. minuta* is distinguished from *A. podicipes* by the distinctly dusky neck-frill, which is bright chestnut in

A. podicipes, and by having no chestnut patch on the lesser wing-coverts. It is a new species to South Africa.—W. L. S.]

184. Scopus umbretta Gm.; S. & L. p. 725.

(1) 27.12.01. ♂. Iris dark brown; bill black; legs black. In the stomach, frogs.

(2) 27.12.01. ♀.

Very common about St. Johns.

185. *Ciconia nigra Linn.; S. & L. p. 729.

Rare, only one specimen seen, in company with a small flock of *C. episcopus*.

186. Ciconia episcopus (Bodd.); S. & L. p. 731.

(1) 12.9.02. ♀. Iris dark red; bill black, with the upper ridge and point red; legs dull red-brown. In the stomach, worms.

A flock of this species appeared on the St. Johns River in September 1902 along with one specimen of *C. nigra*; it is known there locally as the "Pied Hadadah," and seems to visit the river pretty regularly during the winter.

187. *Phalacrocorax lucidus Licht.; S. & L. p. 778.

This Cormorant is irregular in its appearance, but is said occasionally to visit the St. Johns River in large flocks.

188. *Phalacrocorax capensis Sparrm.; S. & L. p. 780.

This Cormorant is found on the sea-coast, but is not plentiful. It does not seem to visit the rivers.

189. Phalacrocorax africanus (Gm.); S. & L. p. 781.

(1) 3.1.02. ♂ jr. Iris pink; legs black; bill pale green, the upper ridge black, the sides of the mandibles banded with brown.

This Cormorant is not abundant, but occurs occasionally on the rivers and salt-water pans.

190. *Sula capensis Licht.; S. & L. p. 775.

This Gannet is common at sea off St. Johns. [It has been identified from the skull.—W. L. S.]

191. *Plectropterus gambensis (Linn.); S. & L. p. 746.

This Goose is now rare, but is said to have been formerly quite plentiful. Two examples were seen in November 1902.

192. *Casarca cana (Gmel.); S. & L. p. 753.

This Sheldrake is not common. A flock of four was seen in the district in October 1902.

193. Chenalopex ægyptiacus (Linn.); S. & L. p. 747.

(1) 11.7.02. ♂. Iris crimson; legs pink; bill light pink, marked with pink-brown. In the stomach, vegetable matter.

The Egyptian Goose is not abundant, but comes down to the coast regularly in winter. A pair or two sometimes stay and breed. The bird is shy and difficult to approach, while it occasionally assembles in flocks of a dozen.

194. Anas undulata Dubois.

Anas xanthorhyncha S. & L. p. 755.

(1) 9.4.02. ♂. Iris hazel; legs black; bill yellow and black. In the stomach, seeds of sedges.

The Yellow-billed Duck is not common at St. Johns; it is usually seen in pairs.

195. Anas sparsa Smith; S. & L. p. 756.

(1) 26.12.01. ♂. Iris dark yellow; legs yellow, webs black; bill with the lower mandible pale yellow, the upper pale blue marked with black. In the stomach, seeds of sedges.

(2) 29.3.02. ♀.

This Duck is plentiful during the summer months, but seems to be absent in the winter; it does not often breed here. The large lizards (*Varanus*) which swarm in the rivers are said to destroy many of the eggs and young of our water-fowl.

196. *Pœcilonetta erythrorhyncha (Gm.); S. & L. p. 754.

Rare at St. Johns, but fairly plentiful about eight miles south.

197. Podicipes capensis Licht.

Podiceps minor S. & L. p. 787.

(1) 22.9.02. Iris yellowish brown; legs greenish black; bill pinkish black, lower mandible yellowish below.

(2) 18.10.02. Iris hazel; bill with the upper mandible black, the sides yellowish, the lower mandible yellowish, the gape greenish blue.

This Grebe is not plentiful. It is found in still water and on ponds, and is very shy.

198. SPHENISCUS DEMERSUS (Linn.); S. & L. p. 789.

(1) 24.7.02. Iris dark brown; bill black, marked with pink; legs dull black, variegated with pink.

I kept a specimen of this Penguin alive for some time, and observed that the skin round the eye and at the base of the bill varied very much in colour, being sometimes pink and sometimes almost bright blue. The Penguin is rare at St. Johns, but is occasionally washed up dead after storms. It is said to breed at the mouth of the Kei River.

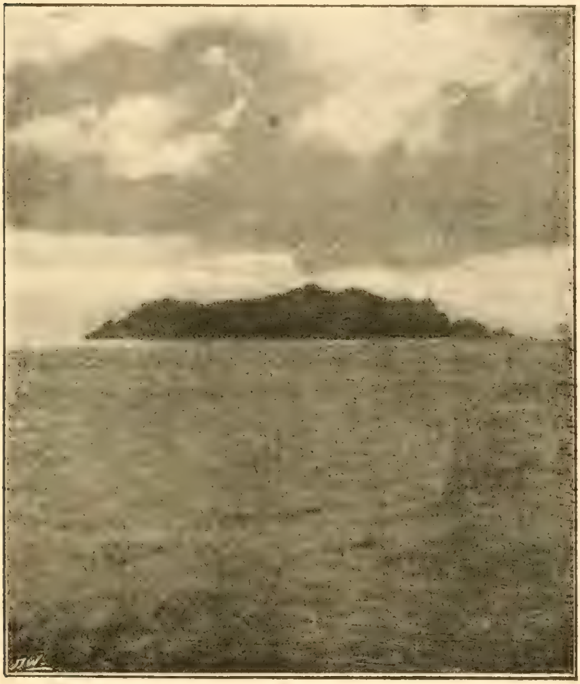
XIII.—*The Birds of the Island of South Trinidad.* From the Journal of EDWARD WILSON, M.B., Surgeon and Zoologist to the National Antarctic Expedition.

[THIS extract from Dr. Wilson's journal, together with Dr. Bowdler Sharpe's report on the specimens of birds obtained during the visit of the 'Discovery' to South Trinidad on Sept. 13th, 1901, was prepared in order to be read at the Meeting of the Royal Geographical Society on February 4th, 1902. But neither journal nor report could be read on that occasion, owing to press of time, and they have now been handed over to the Editors of 'The Ibis' for publication.

A very interesting narrative prepared by Dr. George Murray, F.R.S., of the adventures met with by the landing-party on South Trinidad has already appeared in the 'Geographical Journal' (vol. xix. pp. 423), together with his general remarks on the island; and we have to thank the President and Council of the R. G. S. for their kind permission to use one of the text-figures (text-fig. 1, p. 209) employed on that occasion.—EDD.]

ON September 13th, 1901, before there was sufficient light to be certain that the sun was rising, the outline of the island of Trinidad came in sight—a very bold and rocky outline,—and very soon afterwards birds began to appear. The first and most inquisitive were four or five large black birds with long narrow beaks, very long swallow-like tails, and a great stretch of somewhat narrow and pointed black wing. There was white on the breast, upper abdomen, and flanks, with one large triangular (or, rather, diamond-shaped) patch. The head was dirty white, the throat seemed brownish or purplish at a distance. The birds sat close together, three or four of them, on the main-royal-stay. As we came closer to the island the number of individuals increased; and all over the shore and up the cliffs and sides of the hills to the very top were vast quantities of birds, of which I made out the following :—

Text-fig. 1.



South Trinidad in sight. (Geogr. Journ. xix. p. 424.)

1. The swallow-tailed bird above mentioned, which was very familiar and inquisitive.
2. The Gannet, seen only at long distances, shining out white in the sun.
3. A small, pure white Tern (*Gygis candida*), with the bill jet-black, the eyes and feet dark blue, apparently black at a distance. These Terns came fairly close to the ship and were perhaps the commonest birds round this side of the island.
4. A small, black, Tern-like bird, shaped very much like a Common Tern and of the same size—greyish black all over except for white under wing-coverts. This was by no means frequently seen and was not familiar or inquisitive; consequently no specimen was obtained.
5. A Petrel, the size of a Cape Pigeon, but greyish brown all over the upper parts and white underneath.
6. A Petrel, identical in form except that the colour was greyish black *all* over and the feet and legs quite black, instead of pinkish white and black as in No. 5.

These six were the only species that I saw here, and, next to the *Gygis*, the white-breasted Petrels were the most common. As we came close in shore we could see patches of the cliffs freely splashed with white guano.

On landing we were greeted by numbers of the white Tern, and a short way up from the shore there could be seen scattered here and there solitary young birds perched on the rocks in every stage of down and incipient feathering. Some were just hatched and some just starting their feathers, but the majority were almost ready to fly and with a good deal of provocation would attempt to do so successfully. The old birds were very tame, four or five of them flying close round our heads. Going along the shore to the west their numbers increased and I found there one of their eggs. The bird was sitting on it and continued to sit on the spot after I had removed the egg, so long as I was in sight. This egg was addled. Lieut. Shackleton brought back two other eggs very hard-set, one of them on the point of hatching. In no case was there more than one egg, and in two instances it was laid on a bare sun-bleached boulder; in the third case on the equally bleached trunk of a dead tree. Three old birds were obtained, two of which were unfortunately stained from being buried. All the nestlings, four in number, in various stages of down, were put into formalin without being skinned. On the following morning I made a colour-sketch of the fresh foot. The beak was jet-black and the large and prominent eye also black. The entire plumage was pure white. The legs and toes were slaty blue with pale whitish webs. I take the bird to be *Gygis candida.*

The Gannet, which I suppose to be *Sula piscator,* was not seen by those who remained on the shore, but was found in considerable numbers higher up the hill-side breeding among the whitened dead trees, on the stumps of which the nests of sticks were placed from one to five feet off the ground. The birds were not shy and in some cases remained to be caught on the nest. Several nests were found to be empty: only one contained a single egg, which was obtained by Lieut. Royds, who brought it safely on board. It was perfectly fresh-laid. Mr. Skelton shot several of these birds and four skins were made. No young birds were seen by any one. It was in one of these nests that Lieut Shackleton found a leguminous plant. It was interlaced with the sticks. On the following morning I made colour-sketches of the head and feet. The skin round the eyes was vivid blue and the beak also blue but paler, running into violet in places, and at the base into red. The feet were bright salmon-pink, almost vermilion. I believe the "Booby" killed on the 12th of September to be a yearling specimen of this Gannet. In the stomach of one bird and in the throat of another were discovered parts of a flying-fish, which might have measured six inches in length. In both cases it was only the hinder half.

The Frigate-birds were not seen on shore at all, and we had to rely on those who were left on board to procure specimens. Only one was obtained, and it was made into a skin.

The Tern-like bird, black all over (No. 4), was seen once or twice on shore, but could not be procured, nor was it found to be nesting.

The white-breasted Petrel, the commonest bird on the shore itself (No. 5), was procured in some numbers. Skins have been prepared shewing many stages of white, white and grey, and wholly grey breast and under parts; but in every case, no matter how dark the breast may be, the feet and legs are pink and black, parti-coloured, and not wholly jet-black as in the species next mentioned. This white-breasted Petrel was breeding freely about the cliffs at the west end of the bay in which we landed. There was no nest-material, but the large white egg was laid in a saucer-like depression on a ledge of the rock—which was quite friable and soft, so that a depression could be easily made in it by the sitting bird shuffling about. The birds were easily caught by the hand, and three were so taken with their single eggs. Unfortunately, only one egg reached the ship unbroken, as the whole of Mr. Skelton's take of eggs was crushed in the difficulties of embarking in the evening. These white-breasted Petrels flew close over our heads and were quite unsuspicious. We could often see them chasing one another with a continuous twittering cry, and often too they would chase the black-breasted Petrels if they invaded their part of the shore, but I imagine that this was only from jealousy. There was another note, which I heard only once or twice, which reminded me of the hen Cuckoo's "bubbling" note; this came from the white-breasted Petrel. Mr. Ferrar brought in a young specimen of the white-breasted Petrel in down, which was afterwards made into a skin. It had at least half an inch of semi-fluid blubber between the skin and the flesh, almost over the whole body. All the Petrels were very fat, but none so fat as this young bird. The one egg which was brought on board was quite fresh-laid, as also were those that were accidentally broken. In skinning these Petrels one of the most noticeable things was the capacious hollow in the bird where one would expect its abdomen to be—a hollow big enough to hold its egg, which is as big as a fowl's, though the bird itself is only of the size of a pigeon. I marked the birds which were caught sitting; one was a cock bird with a dark grey breast, not white, and with pink and black feet. The second was a cock bird with a pure white breast. The third was a hen with a wholly grey breast. All these had pink legs and pink and black feet. Therefore I conclude that the white breast is a sign of maturity, not sex, and that the younger birds of both sexes have grey breasts, just as the mature birds of both sexes have white breasts. The skins made may be arranged thus:—

1.	Dark grey breast.	Caught sitting.	♂.
2.	,, ,,	,, ,,	♀.
3.	,, ,,	Shot.	♂.
4.	,, ,,	,,	♀.
5.	White breast.	Caught sitting.	♂.
6.	,, ,,	Shot.	♀.
7.	,, ,,	,,	♂.
8.	White breast in down.		♀.

This Petrel I take to be possibly *Œstrelata neglecta*, but more probably the Trinidad species *Œstrelata arminjoniana.*

There was but one specimen obtained of the last species to be mentioned—the black Petrel with black legs and feet, which I take to be *Œstrelata trinitatis.* This bird was found breeding in considerable numbers well away from its white-breasted cousin, and much higher up in the island, on ledges of the cliffs of the higher parts, and in small colonies close together. The eggs were indistinguishable from those of the white-breasted bird, and a mere saucer-shaped hollow formed the nest as in the other case. There were no young. Six eggs of this bird reached the ship, but most of them were slightly cracked, owing to the fact that they were all brought down the steep mountain-side in a handkerchief, like mushrooms, and being as big as fowls' eggs they naturally suffered. They were all either fresh or very slightly incubated.

XIV.—*Report on the Birds obtained by the National Antarctic Expedition at the Island of South Trinidad.* By R. Bowdler Sharpe, LL.D., F.L.S., &c.

Dr. George Murray, F.R.S., has handed to me for description the small but very interesting collection of birds and eggs made by the officers of the 'Discovery' on the island of South Trinidad, accompanied by the excellent notes on the species observed by Dr. Edward Wilson given in the preceding paper.

The species of which examples were obtained on the island and in its vicinity were six in number, as follows :—

1. Sula piscatrix.

Sula piscator (Linn.) ; Saunders, P. Z. S. 1880, p. 163 ; Ogilvie-Grant, Cat. B. Brit. Mus. xxvi. p. 432 (1898).

Sula piscatrix, Sharpe, Hand-l. B. i. p. 236 (1899).

a. ♀ imm. Off South Trinidad, 20° S., 29° W., Sept. 12, 1901. Bill and skin round eye livid bluish ; tarsi and feet almost vermilion-red ; iris dull yellowish (*E. A. W.*).

b. ♂ ad. ; *c, d, e.* ♀ ad. South Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill livid bluish, red at base ; tarsi and feet red ; iris dull yellow (*E. A. W.*).

f. (Egg.) South Trinidad, Sept. 13, 1901.

Of the five specimens obtained, four are in full white plumage and one is in the brown livery of the second year, as correctly surmised by Dr. Wilson, who has sent a beautiful sketch of the head of an adult specimen. The egg is of the usual Gannet type, a light greenish blue, more or less concealed by a chalky covering : axis 2·35 in., diam. 1·75.

Lord Lindsay (now Earl of Crawford) found this bird nesting on the island when he visited it on the 20th of August, 1874, and Mr. E. F. Knight mentions it several times in his "Cruise of the 'Alert.'"

2. Fregata ariel.

Fregata ariel (Gould) ; Ogilvie-Grant, Cat. B. Brit. Mus. xxvi. p. 447 (1898) ; Sharpe, Hand-l. B. i. p. 237 (1899) ; id. Monogr. Christm. Isl., Aves, p. 44 (1900).

a. ♂ imm. Off South Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill slate-grey; skin of throat dull red; tarsi and feet dull pink; iris dark brown (*E. A. W.*).

Although this specimen is apparently immature, and has no white collar round the hind-neck, it has the throat greyish and the fore-neck and breast white. Hitherto only the large Frigate-bird (*Fregata aquila*) has been recorded from S. Trinidad (*cf.* Saunders, P. Z. S. 1880, p. 163, and Ogilvie-Grant, Cat. B. Brit. Mus. xxvi. p. 443), where large numbers were seen on the 20th of August, 1874, by the Earl of Crawford, who found the bird nesting on the island. There is, however, no doubt in my mind that the specimen obtained by Dr. Wilson is referable to the smaller Frigate-bird; and in this identification I am supported by Mr. Ogilvie-Grant, who says:—"This is undoubtedly a nearly adult female of *F. ariel*, and is gaining the white collar on the hind-neck." Culmen 3·2 inches; wing 19·4; tail 12·0.

3. ŒSTRELATA TRINITATIS.

Æstrelata trinitatis, Gigl. & Salvad. Ibis, 1869, p. 65.

Œstrelata trinitatis, Salv. in Rowley's Orn. Misc. i. p. 253, pl. xxxii. (1876); id. Cat. B. Brit. Mus. xxv. p. 413 (1896); Sharpe, Hand-l. B. i. p. 126 (1899).

a. ♂ ad. S.W. Bay, South Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill black; tarsi and feet black; iris very dark brown (*E. A. W.*).

b–g. (Eggs.) South Trinidad, Sept. 13, 1901.

This species is easily recognised by its perfectly black tarsus and toes, the middle toe and claw being 1·9 inch in length in the single specimen obtained, which has the general appearance of *Œ. jamaicensis*, but has not the pale rump of that species.

The single white egg procured measures:—Axis 2·5 in., diam. 1·85. It is very large for the size of the bird.

ŒSTRELATA ARMINJONIANA.

Æstrelata arminjoniana, Gigl. & Salvad. Ibis, 1869, pp. 62, 66.

Œstrelata arminjoniana, Salvin in Rowley's Orn. Misc. i.

pp. 234, 252, pl. xxxi. (1876); id. Cat. B. Brit. Mus. xxv. p. 413 (1896).

This species was discovered by Dr. Giglioli on South Trinidad during the voyage of the 'Magenta,' and the type was figured by Mr. Salvin in Rowley's 'Ornithological Miscellany' (vol. i. p. 252, pl. xxxi.), but the tarsi and base of the toes are coloured *yellow* in the plate, and do not agree with the original description of Dr. Giglioli and Count Salvadori, which reads as follows:—"Tarsis carneis, digitis ac membrana interdigitali nigris, excepta parte basali intermedia tarso concolori."

The Earl of Crawford procured a specimen of a Petrel on South Trinidad on the 20th of August, 1874, which was identified by Mr. Salvin as *Œ. arminjoniana* in the 'Catalogue of Birds' (*l.c.*), and apparently quite correctly; but I find, to my great surprise, that it is not of the same species as the white- and grey-breasted Petrels which the officers of the 'Discovery' obtained, though the tarsi and toes are the same in colour. These are much darker birds, blacker above, and with a notably larger bill, and I believe them to belong to an undescribed species, which I have named in honour of the indefatigable young naturalist on the 'Discovery.'

4. ŒSTRELATA WILSONI.

Œstrelata wilsoni, Sharpe, Bull. B. O. C. xii. p. 49 (Feb. 1902).

♀. Similis *Œ. arminjonianæ*, sed nigricantior et rostro crassiore distinguenda; rostro nigro; tarsi et digitis palmatis basin versus carneis, terminaliter nigris; iride saturate brunnea. Long. tota circa 12·5 poll., culm. 1·1, alæ 11·1, caudæ 4·5, tarsi 1·3, dig. med. c. ungue 1·9.

This Petrel has, in my opinion, a light and a dark phase. The latter is dark leaden-grey, and Dr. Wilson, as will be seen above (p. 213), considers this to be the immature and the white-breasted form the adult bird. As, however, both white- and grey-breasted birds have been found sitting on eggs, it is evident that they are adult; and I believe that the species is dimorphic, and has a white and a grey phase of plumage. Dr. Wilson's account is very interesting and should be studied.

a. *Grey phase.*

a, b. ♂ ad.; *c.* ♀ ad. S.W. Bay, South Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill black; tarsi and base of feet pink, outer toe and terminal portion of the other toes and outer part of webs black; iris dark brown (*E. A. W.*).

b. *White phase.*

a, b. ♂ ad.; *c.* ♂ in down; *d.* ♀ ad. S.W. Bay, South Trinidad, 20° 30′ S., 29° 20′ W., Sept. 13, 1901. Bill black; tarsi and base of feet pink, outer toe and terminal portion of other toes and outer part of webs black; iris dark brown (*E. A. W.*).

5. DAPTION CAPENSIS.

Daption capensis (Linn.); Gigl. Faun. Vert. Oceano, p. 46 (1870); Salv. Cat. B. Brit. Mus. xxv. p. 428 (1896); Sharpe, Hand-l. B. i. p. 127 (1899).

a. ♀ ad. At sea, 34° 39′ S., 15° 18′ W., Sept. 21, 1901. Bill black; tarsi black, feet black and light blue; iris dark brown (*E. A. W.*).

6. GYGIS ALBA.

Gygis candida (Gm.); Saunders, P. Z. S. 1880, p. 163 (S. Trinidad); id. Cat. B. Brit. Mus. xxv. p. 149 (1896).

Gygis alba, Sparrm.; Sharpe, Hand-l. B. i. p. 138 (1899).

a. ♀ ad. South Trinidad, Sept. 13, 1901. Bill black; feet slate-grey, webs white; iris black (*E. A. W.*).

b, c. ♀ ad. S.W. Bay, S. Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill black; tarsi slaty blue, toes slaty, webs whitish; iris black (*E. A. W.*).

d, e, f. (Eggs.) South Trinidad, Sept. 13, 1901. Measurements: axis 1·7–1·8 in., diam. 1·3–1·4.

XV.—*The Birds of a Garden in Melbourne.*

By Robert Hall, C.M.Z.S.

A garden in Melbourne has in many respects a phase of bird-life quite its own, while this is, of course, only a fragment of the ornis of Australia. I have selected the grounds in which my home has been for many years for the following notes. To me the locality is full of life, and so rich in birds is the area within a radius of five miles that no less than one hundred and eighteen species have been put upon record as its inhabitants. In the Surrey Hills, near Melbourne, we have learned to look for the birds which come to visit us in the different seasons, each in its order, and if certain of them did not nest every year in our acacias and eucalypti, we should look upon them as lost to us altogether.

One Magpie (*Gymnorhina*), for instance, an old friend with a broken leg, regularly renews its nest every year, doing so this season for the fifth time. A Welcome Swallow (*Hirundo frontalis*) is so constant to its homestead that a neighbour tells me that this is the sixteenth year since the first nest was carefully built in the recesses of a certain old "gum"-bole. We much appreciate such loyalty.

With us one of the most prominent callers that act as harbingers of spring is the Pallid Cuckoo (*Cuculus pallidus*). No sooner has it arrived than it perches upon the topmost dead bough of the highest tree, and peals forth a series of notes ranging through an octave (no twofold shout!). The joy of the spring here depends much upon the music of the birds. That glory of the summer, the Superb Warbler (*Malurus superbus*), is about to put on its mantle of enamelled blue, and now cheerily and impetuously rushes about, first here, then there, among the wild shrubs and herbs. This is indeed the season of greatest bliss, and those persons who can find time to go occasionally into the adjacent woods, before leaving for the city, share in an unmeasurable joy. Here is one of the birds which should be sacred to every tiller of the soil, for experiments have shown us that a single individual will devour in one day eighty larvæ of a kind very injurious to the agriculturist. Just as we yearly wonder what becomes of our Robin in summer, so we yearly miss our Blue-bird in winter. The Robin (*Petrœca phœnicea*) sports its brilliant coat in the open suburban districts during the winter, and seeks the nearest forest to nest in the summer. The Superb Warbler (*Malurus superbus*) stays in our gardens throughout the year, but on account of the dropping of its coat of blue and the putting on of a modest suit of brown during the winter we may fail to recognise the identity of the species.

Spring to the birds of my father's garden is certainly the gay time of the year, and at this season the hedges become alive with the voices of the Tits. My great hope in early spring is that the Yellow-rumped Tit (*Acanthiza chrysorrhoa*) will find it worth while to build its nest adjacent to our apple-trees. There are far too many aphides here. One of the best of the feathered police of the gardens of this district is the Silver-eye (*Zosterops*), yet it is viewed by some people as a bird of doubtful character because of a propensity to harry the grape- and fig-crops. Everything good in this world seems to me to have an element of evil in it. So with this bird, its marvellous utility in destroying noxious insects in an orchard is combined with a power to seriously damage a fruit-crop. Rose-growers, however, get the full advantage of its presence. The gardener's best bird-friends are more exclusively insectivorous.

Five years ago the Wood-Swallows (*Artamus*) came south in vast numbers and built several hundred nests in this district. It was a blessing for the market-gardeners, for these sociable birds acted as the best of vermin-destroyers. The Boobook Owl also attends to this matter and keeps down the smaller rodents. The Tawny Frogmouth (*Podargus*), a real bird of the twilight, appears to be with us always, devoting its attention to keeping the balance among certain insects.

The Red-browed Finch (*Ægintha temporalis*) weakens its migratory ranks as it crosses our borders in the spring. The Spine-tailed Swift passes by rapidly in the early summer or stays a few days only, while the *Petrœca* comes to us in the autumn. The great majority of our birds go from our garden northward to their winter-home in April. In May, the first of the cold months, the Melbourne fields receive a further supply of the Magpie (*Gymnorhina*), the Magpie-Lark (*Grallina*), and the bird generally referred to as the Lark (*Anthus australis*). The flute-like notes, the optimistic spirit, and the attractive form of the Magpie have probably no counterpart in nature. Every field in this district has one or more pairs of this bird, and the rural suburbs of Melbourne would almost appear deserted without them. That the Magpie eats a little grain just before it sprouts is the only grievance which we have against our characteristic bird. The balance is heavily in its favour. As regards the Magpie-Lark, absolutely nothing has been placed to its debit; it is a much-valued denizen of the field or garden. The *Anthus*, a semi-domesticated bird, also lives in the good graces of the people.

These three species are prominent birds in the Melbourne district—the first two by reason of their conspicuous dress and pleasant voice, and the third on account of its frequency. Flocks of the English Starling occasionally wheel into our trees with a graceful "military" flight. The Mavis and Merle of the fatherland also brighten our lawns. Last year we heard the song of a Lark. It may have been the song of the bird that "sings at Heaven's Gates," as this introduced British species is prevalent within five miles of the spot under consideration. Gloomily I may also mention the names of the European Sparrows (*Passer domesticus* and *P. montanus*). To the city they are invaluable, but in the country they bring forth a tale of woe, ever recurring. Rose-growers, however, find them capital fly-eaters.

The true Flycatchers (*Rhipidura albiscapa*) leave the creeks in autumn and grace our gardens. Occasionally they appear in spring and build in our trees most beautiful nests, the purpose of which a philosopher is needed to unravel.

If in the suburban garden there is a piece of rank scrub, there surely will be the nesting-haunt of a Scrub-Wren (*Sericornis*). The building of that nest, if carefully studied, would be an extraordinary lesson. If there is a clump of timber adjoining, as is the case with us, there will probably be a Tree-creeper (*Climacteris scandens*) or a Tree-runner (*Sittella chrysorrhœa*), or both in it. To see the former, head upwards, working spirally up the tree-trunk, and the latter, head downwards, descending a tree in search of insects, is a pleasant diversion.

The Tree-creeper is one of the puzzling forms that lays bright eggs in a dark hollow, while the Tree-runner is equally interesting as building a nest covered with bark, so as to be in exact agreement with its surroundings.

Within a mile of the house are usually several nests of the Ground-Tit (*Chthonicola*) containing eggs, perhaps the most beautiful of those of the Australian avifauna. Yet these eggs are hidden away in a dome-shaped nest upon the ground—an uncommon place for nests with a side entrance.

The Yellow-rumped Tit builds a two-roomed nest in one of our hedges; the Striated Tit suspends its home from a tree; the Buff-rumped Tit nests within two feet of the ground; while the Ground-Tit places its nest, with its peculiar eggs, down amongst the grass upon the ground. A bird that tunnels far into the creek-bank to nest, and that only scampers about on our trees in early spring and autumn, is the Pardalote (*Pardalotus striatus*).

Not being altogether satisfied with the creek-banks below our property, the Fairy Martin (*Petrochelidon ariel*) has this year placed a colony of nests beneath the verandah of a neighbour's house. This bird's nest, being retort-shaped and composed of mud, is in itself a most interesting structure. The close presence of a colony of such a species and its grace of action should be enough to attract the notice of even the most unobservant of mortals.

The Welcome Swallow, with its nest in the coach-house, flies in a high stratum of the air and captures those insects which frequent it. The Swifts pursue the insects in the stratum above all the others. Thus we have three genera which appear to work together and to have a concerted mission. Into our fish-pond a *Dacelo gigas* recently dived, but, not being an accomplished fisher, failed to make a catch. Both this bird and the Sacred Halcyon have recently surprised me by laying eggs that are rusty brown instead of white. Such seem to me to be cases of reversion. In the country districts the *Dacelo* is known as the "Bushman's Clock" or "Laughing Jackass." At an hour when farmers should be leaving their beds the merriment of this bird is loud and long. They hold "corroborics" upon our chimney-stacks.

One of the birds that has interested me most of all in this district is the White-throated Thickhead (*Pachycephala*). Rusty brown when a few months old, uniform grey when a year of age, and jonquil-yellow ventrally when adult, it exhibits three most interesting phases. When the nestlings of this species fare abroad, it is the rule of each parent to look after the same young bird during the whole of the day, and I believe throughout the early part of its life. There are generally only two young in each brood.

Autumn brings silence among the birds of our garden. The Collared Crow-Shrike (*Cracticus torquatus*) almost alone relieves it, and with a rich, liquid, impetuous, and penetrating voice talks to the animals along the hedges immediately surrounding the town. Its voice appeals to me as being one reserved for the quiet days of the autumn. Nature's compensation for taking away the birds of the summer is the gift of the more gaily dressed Robins (*Petrœca phœnicea* and *P. leggi*). These birds are without the song of the English Robin, but with their pleasing forms and demeanour will help us through the winter to the time when spring arrives again.

XVI.—*On the Birds of Sibthorp's 'Fauna Græca.'*

By P. L. Sclater, D.Sc., F.R.S.

Dr. Sibthorp's 'Flora Græca' is a famous work in botany; but it is not generally known that he had intended to prepare also a '*Fauna* Græca,' and left behind him at his death a beautiful series of zoological drawings, which now belong, as do the original drawings of the 'Flora Græca,' to the library of the Botanical Gardens at Oxford. These drawings, like those of the plants, were made by the celebrated artist Ferdinand Bauer, who accompanied Sibthorp in his journeys to Greece and the Levant in 1786 and the following years. They have been arranged and bound in three folio volumes, which bear the following MS. title:—

"Fauna Græca Sibthorpiana, or Drawings of the Animals of Greece and the Levant executed by Ferdinand Bauer for Dr. John Sibthorp, but never engraved."

The first volume contains "Mammalia, Amphibia, and Pisces" (with 94 drawings), the second "Pisces" (with 85 drawings), and the third "Aves" (with 111 drawings). The drawings of the last volume appear to have been arranged according to Gould's 'Birds of Europe,' and are named (in MS.) with English and Latin names. As regards these, there is a MS. entry which gives us the following information:—"The names marked 'G.' have been determined by J. Gould, the names marked 'H. E. S.' by H. E. Strickland: all the rest by F. Holme." Besides the English and Latin names some of the pages bear MS. remarks on the identity of the species and short criticisms on the figures, which, however, in most cases are very accurate and easily identifiable.

Frederick Holme, who appears to have had the principal share in naming the plates, was a Medical Fellow of Corpus Christi College, Oxford. He died in 1849, and I am not sure that I ever saw him; but I well recollect that Strickland used to speak of him as a "good ornithologist," and in the "Strickland Collection of Birds," now in the University Museum of Zoology at Cambridge, there are five or six specimens labelled as received from "F. Holme"*.

Prof. Newton has kindly examined for me Strickland's correspondence, now in the Museum at Cambridge, and has found several letters from Holme to Strickland referring to these drawings. He has also pointed out to me that Holme was a frequent contributor to the 'Zoologist' (1843 to 1845), as will be seen by reference to that journal.

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* See 'Catalogue of the Strickland Collection of Birds,' by O. Salvin (Cambridge, 1882), Introduction, p. xi, and nos. 890, 1457, 1566, 1759, and 1819.

Strickland, who took his degree at Oxford, and after 1846, until his death in 1853, was a constant resident there, giving lectures as "Reader in Geology," had, of course, every opportunity of studying these drawings, and was evidently associated with Holme in arranging and naming them. On reference to Jardine's 'Memoirs of Hugh Edwin Strickland' (London, 1858), the following passage will be found (p. cxcvii) in a letter addressed by Strickland to Edward Forbes (dated April 20th, 1842):—

"I saw lately at Oxford a collection of unpublished drawings made by Dr. Sibthorp forty years ago in Greece and Cyprus, and among the birds are many not recorded as European."

As regards Gould's share in the transaction, I suspect that it was small. He was, however, consulted on the subject by Holme, as we know from the Strickland correspondence. Besides this, I remember that Gould came to Oxford on a visit to Strickland some time in 1846 or 1847. I was resident as an undergraduate at Corpus at that time, and I well recollect the satisfaction with which, as a youngster in ornithology, I received an invitation to breakfast from Strickland and his wife (who were then living in lodgings in Merton Lane) "to meet Mr. Gould." This was my first introduction to "John Gould the Birdman"—one of the most remarkable personages I have ever known in the course of a long life. It was probably on this occasion, I think, that Gould was consulted by Strickland as to the determination of those of the Sibthorpian drawings to which his initials are attached.

With regard to the drawings themselves, 114 in number, as already stated, illustrating about 100 species, I think that it is hardly worth while to print a list of them, as there are no localities or any points of *original* information attached to them, and we know that they were not arranged and named until fifty years after their execution. But I conjecture that the greater number of them were made in Cyprus, where, or in the other adjoining islands of the Levant, Sibthorp and his artist stayed five weeks in 1787. As a rule, I may say that all the species figured by Sibthorp are well-known inhabitants of South-eastern Europe, but I will offer a few remarks on some of them.

Drawing 27 is named "*Lanius nubicus* Licht. = *L. personatus* Temm. Pl. Col. 256, fig. 2," and the remark is added, "Native of Egypt and Nubia, hitherto unrecorded in Europe." The plate undoubtedly represents *Lanius nubicus*, which is a very well-marked species; but, whatever may have been the case when the remark was written, this Shrike is now well known to be a regular summer visitor to Greece (*cf.* Dresser, B. Eur. iii. p. 416), and Dr. Guillemard found it nesting in Cyprus (Lilford, 'Ibis,' 1888, p. 312). It was probably in Cyprus that Sibthorp met with it.

Drawing 29 is labelled "Ring Ouzel—*Merula torquata*," and represents that well-known bird. It is, perhaps, surprising that Sibthorp should have got hold of an example of this Thrush, but both Lindermayer and Von der Mühle state that it occurs in Greece, though very rarely, and, according to Shelley, it even goes to Egypt in winter. *Turdus torquatus* is also well known to cross the western Mediterranean and to visit Algeria in winter.

Drawing 38 is marked "Olive-tree Warbler, *Salicaria olivetorum*," and was probably so labelled by Strickland, who gave it its name in 1837 from specimens obtained by himself in the island of Zante. Now we become aware that this fine Warbler was known to Sibthorp as long ago as 1787, and was figured by Bauer. We do not know exactly where Sibthorp obtained his specimens, but *Hypolais olivetorum*, as it is now usually called, is common in Corfu and on many parts of the mainland of Greece during the summer.

The Snow-Finch (*Montifringilla nivalis*) is, again, a species which one would not have expected to find figured in the present work, but it is undoubtedly represented in drawing 65. It is found, however, according to Canon Tristram, on the mountains of the Lebanon and also on the higher ranges of the Balkans (*Reiser*); it is quite likely, therefore, that it may occur on the mountains of Northern Greece, where the Chough (*Fregilus graculus*), also figured by Sibthorp (Drawing 66), was probably likewise met with*.

I now think that I have said enough to call the attention of ornithologists to this remarkable work, which is well worthy of inspection by all students of our science who may visit Oxford. I am sure that Prof. Vines, F.R.S., the Sherardian Professor of Botany, who now occupies the Chair once held by Dr. Sibthorp, will be pleased to shew it to anyone interested in the subject. But before concluding this article, I must say a few words concerning Sibthorp himself, best known, no doubt, to botanists by his 'Flora Græca,' but also to be honoured by zoologists for his intention of following it up, as we now know, with a 'Fauna Græca.'

John Sibthorp, as we are informed by Mr. Druce in the introduction to his 'Flora of Oxfordshire,' was born at Oxford in 1758, and, after finishing his education at Magdalen School and Lincoln College, and taking the degrees of M.A. and M.D., succeeded his father as "Sherardian Professor of Botany in the University of Oxford," in 1783. Soon after this he planned an expedition to Greece for natural-history purposes, and in aid of it secured the services of the excellent draughtsman Ferdinand Bauer†. In March, 1786, they left Vienna together, and first proceeded to Crete, where in June they found flowers "abundant and in great beauty." Subsequently, after touching at several islands in the Archipelago, they visited Athens and Smyrna, ascended the Bithynian Olympus, and at length reached Constantinople, where they passed the winter of 1786–7.

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* A letter just received from Herr Reiser informs me that he will include the Snow-Finch in his new volume on the Birds of Greece, having met with it on the highest ranges of Mount Vardusia in Phthiotis.

† Ferdinand Bauer afterwards became draughtsman to the great botanist, Robert Brown, and accompanied him during Flinders's voyage to Australia in the 'Investigator' (1801–5). In the Library of the British Museum of Natural History at South Kensington there are 49 drawings of animals and 203 of plants made by Bauer during this voyage.

In March, 1787, Sibthorp and his draughtsman joined company with Captain Emery and sailed for Cyprus, taking the islands of Scio, Mytilene, Cos, and Rhodes on their way. A stay of five weeks in Cyprus, as we are informed by Mr. Druce, enabled Sibthorp to draw up in manuscript a Flora and Fauna of that island. The "Flora," we are told, comprehended 616 species of Plants, the "Fauna" 18 Mammals, 85 Birds, 19 Amphibians, and 100 Fishes. I suspect that many of the drawings of birds in the third volume of the 'Fauna Græca' were made by Bauer on this occasion; but they were no doubt added to at various places on the mainland of Greece, where Dr. Sibthorp passed the whole summer of 1787, returning to England at the end of that year. Sibthorp was well received by his brothers in science on his return, and, though weak in health, was urged by Sir Joseph Banks, Mr. Dryander, and other friends to undertake another expedition for the purpose of rendering his work more complete. Accordingly in 1794 he set out on a second tour, and visited various places in Asia Minor, Greece, and its islands. During this expedition, which lasted till the autumn of 1795, Sibthorp caught a severe chill, from which, in fact, he never recovered. The climates of Devonshire and Bath were tried in vain, and he died of consumption at Bath in February 1796, at the early age of thirty-eight. Few names have a better claim for recognition among the martyrs of science than that of John Sibthorp.

Sibthorp by his will left an estate in Oxfordshire for the purpose of finishing and publishing his 'Flora Græca.' This task was accomplished by Sir J. E. Smith, who drew up the descriptions and characters of the plants, Sibthorp having only sketched out the plan of the work. But unfortunately, as we see, no provision was made for the completion and publication of the 'Fauna Græca,' for Sibthorp was primarily a botanist. But the zoological drawings of Bauer, arranged and bound in three volumes, as already mentioned, are still carefully preserved in the library attached to the Botanical Gardens at Oxford.

XVII.—*On the late Dr. Walter's Ornithological Researches in the Taimyr Peninsula.* By H. E. Dresser, F.Z.S.

A most important paper has recently been published in Russia, in the 'Annuaire du Musée Zool. de l'Acad. Imp. des Sciences de St. Pétersbourg,' entitled "Ornithologische Beobachtungen an der westlichen Taimyrhalbinsel, vom September 1900 bis August 1901." The author was the late Dr. H. Walter, who unfortunately died during the expedition at Kotelny Island, on the 21st of December, 1902. Dr. Walter was medical attendant and ornithologist on board the exploring-vessel 'Sarja.' This vessel was frozen in and wintered on the north-west coast of the Taimyr Peninsula in 76° 68′ N. lat. and 95° 9′ E. long., from the 13/26 September, 1900, to the 11/24 August, 1901, affording to Dr. Walter an excellent opportunity for collecting specimens of birds and eggs. Thus Dr. Walter succeeded in taking eggs and young in down of the Sanderling (*Calidris arenaria*), Curlew-Sandpiper (*Tringa subarquata*), and Knot (*T. canutus*), the eggs of the last being especially valuable, as they are the first well-authenticated specimens yet obtained. I give the following abbreviated translation of Dr. Walter's notes on the twenty-nine species of birds obtained and observed on this occasion, but the particulars relating to the Knot, Sanderling, and Curlew-Sandpiper are translated *in extenso*. I may remark that it is stated that all the eggs and young in down were most carefully identified, as in every case the parent birds were shot and preserved.

1. Colymbus septentrionalis was found breeding numerously, chiefly in July.

2. Colymbus adamsi was not uncommon, arriving on the 19 June, but neither eggs nor young birds were seen.

3. Branta bernicla was the only Goose found breeding numerously. It was first seen on the $\frac{\text{30 May}}{\text{10 June}}$, and commenced to leave on the 6/19 August. The first nest, containing two fresh eggs, was found on the 8/21 June.

4. Anser sp. inc.—Birjula twice saw a grey Goose in June and July, but could not say of what species it was.

5. Harelda glacialis.—Everywhere common from the 5/18 June onwards.

6. Somateria stelleri.—Only single males were seen and shot at the winter-quarters, on the $\frac{\text{20 June}}{\text{3 July}}$, but on the 15/28 August an old female was obtained out of a flock of seven.

7. Somateria spectabilis.—Not uncommon on the small Tundra-lakes and on the sea, the first arriving on the 10/23 June. Late in June complete clutches of eggs were found.

8. Lagopus mutus.—First seen on the 17/30 April. At the end of May these birds were in full breeding-play, the males being still in complete winter-dress or with only a few brown feathers on the neck, whereas the females were in full moult. In the middle of July the young were half-grown.

9. Strepsilas interpres.—One of the commonest of breeding birds in the district, appearing on the $\frac{\text{28 May}}{\text{10 June}}$. When the young were fledged, in the middle of July, both they and the old birds disappeared, and only stragglers were seen later.

10. Squatarola helvetica.—Found nesting everywhere, though not in large numbers, on the Tundra. They arrived on the 5/18 June, and on the $\frac{\text{23 June}}{\text{6 July}}$ and the 2/15 July nests contained four eggs each. The old birds, even at the nest, were very shy.

11. Eudromias morinellus, which was much less common than the preceding species, arrived late in May. On the $\frac{\text{28 June}}{\text{11 July}}$ a nest contained three incubated eggs, and another four much incubated.

12. Limosa lapponica.—Did not breed in the district, but passed over after the $\frac{\text{19 June}}{\text{2 July}}$ in large flocks, which were composed of old males and females. After the $\frac{\text{30 July}}{\text{12 Aug.}}$ a few young birds were seen.

13. Calidris arenaria appeared about the $\frac{\text{28 May}}{\text{10 June}}$, and in

the middle of June one could observe its breeding-evolutions. The male rises with quivering wings about ten feet above the ground, at the same time uttering a harsh note, *trrr-trrr-trrr*, and then descends. The nests, found late in June and early in July, contained four eggs each in three cases and three eggs in one case. The nest was placed, unlike that of the other Waders, which affected the grass-covered portions of the Tundra, between bare clay lumps on moss, and consisted of a shallow depression lined with a few dry straws and a white tangle. In two cases the male, and in two the female, was incubating. On the 16/29 July, when the young in down were taken, the male shewed anxiety, but the female was not seen. During the breeding-season some of these birds wandered about in small flocks. This species remained until the end of August.

Description of the Eggs of Calidris arenaria.

No. 75. Blunt pyriform, fine-grained, with a faint gloss. Ground-colour pale yellowish white, with a very pale greenish tinge and somewhat marked with small yellowish-brown and dark brown spots; a few indistinct light violet-grey markings; at the larger end a few blackish dots and streaks. The measurements of four incubated eggs ($\frac{25\ \text{June}}{8\ \text{July}}$) are:—

a.	35·8 × 24·9 mm.
b.	33·8 × 24·7 ,,
c.	36·6 × 24·4 ,,
d.	34·1 × 24·9 ,,

No. 76. Four slightly incubated eggs ($\frac{25\ \text{June}}{8\ \text{July}}$):—

e.	34·2 × 25·9 mm.	Resemble No. 75, but the spots are larger and more scattered.
f.	34·1 × 26·1 ,,	
g.	33·1 × 24·4 ,,	
h.	36·6 × 25·5 ,,	

No. 87. Three slightly incubated eggs ($\frac{30\ \text{June}}{13\ \text{July}}$):—

i.	37·5 × 24·7 mm.	Resemble No. 75, but the spots are fewer and closer at the larger end.
j.	36·8 × 24·2 ,,	
k.	38·2 × 24·7 ,,	

No. 92. Four incubated eggs (3/16 July) :—

l.	36·2 × 25·0 mm.	Resemble No. 75, but the arrangement of the spots is as in No. 87 and the ground-colour is of a clearer green.
m.	37·0 × 24·7 ,,	
n.	37·6 × 25·3 ,,	
o.	37·4 × 25·3 ,,	

14. Tringa minuta arrived on the 1/14 June. It breeds in the latter half of June, and remains until late in the autumn.

15. Tringa striata arrived on the $\frac{\text{27 May}}{\text{9 June}}$, and as early as the 5/18 June a nest containing eggs was found. It remains until late in the autumn.

16. Tringa subarquata.—The Curlew-Sandpiper arrived on the $\frac{\text{31 May}}{\text{13 June}}$ and nested numerously in the district. Early in June they chased each other in threes and fours over the Tundra. The nests were placed in grassy places, and consisted of shallow depressions lined with a few dry straws and a white tangle. In the middle of June the nests contained full clutches of eggs. On the approach of a person the sitting bird, warned by its mate, leaves the nest quickly, and both birds remain very passive and unobtrusive. Usually the observer has to wait long before the female decides to return to her nest and thus betray its position, and often he has to wait in vain. Some individuals of this species also wander about in small flocks during the breeding-season, while later both old and young collect in large flocks and remain until late in the autumn.

Description of the Eggs of Tringa subarquata.

No. 60. Blunt pyriform, fine-grained with a faint gloss. Ground-colour pale yellowish white with a greenish tinge, with large and small brown to blackish-brown spots, which are more confluent, and to some extent quite confluent at the thick end, and a few washed-out pale violet-grey spots.

No. 60. Four fresh eggs (11/24 June) :—

a.	36·7 × 25·7 mm.
b.	36·6 × 25·0 ,,
c.	38·3 × 25·4 ,,
d.	36·9 × 25·7 ,,

No. 71. Four fresh eggs ($\frac{23\text{ June}}{6\text{ July}}$):—

e.	37·4 × 25·7 mm.	Resemble No. 60.
f.	37·0 × 25·6 „	
g.	39·6 × 25·6 „	
h.	37·8 × 26·1 „	

No. 67. Four incubated eggs ($\frac{18\text{ June}}{1\text{ July}}$):—

i.	35·4 × 26·2 mm.	Resemble No. 60.
j.	34·6 × 25·1 „	
k.	35·7 × 25·7 „	
l.	35·0 × 26·0 „	

17. Tringa canutus.—This species was also by no means a rare breeding bird in the district. From the $\frac{27\text{ May}}{9\text{ June}}$ its loud whistle was to be heard and its pretty nuptial flight observed. It executed, now with a trembling motion of the wings, now with motionless wings gliding high in the air, wide circles, continually uttering its varied whistle. On the 9/22 June, the 17/30 June, and $\frac{29\text{ June}}{12\text{ July}}$, nests, each containing a single fresh egg, were taken (we were compelled by circumstances to satisfy ourselves with incomplete clutches), and on the $\frac{23\text{ June}}{6\text{ July}}$ a nest was found with three slightly incubated eggs. The eggs vary greatly in form, size, and coloration. The nests were placed in grassy places on the Tundra, and consisted of a shallow depression lined with a few dry grass-bents and a white tangle. At the end of June and in the middle of July we secured three lots, each of four young in down. The nests were all found by accident, for the incubating male or female did not leave the nest until almost trodden on, when they puffed out their feathers until they appeared almost double their normal size. They practiced the usual wiles to get the intruder away, and one female even let herself be caught by a dog. The male was always most careful of the young, whereas the female, when in the vicinity, had the appearance of an uninterested spectator. Of this species also, during the breeding-season, small flocks

wandered about. They joined the young birds later on and formed large flocks, which remained until late in the autumn.

Description of the Eggs of Tringa canutus.

No. 56. Slightly defined pyriform, fine in grain, slightly glossy. Ground-colour pale clay, marked with some large and a few small dirty-brown spots and a few small washed-out pale violet-grey spots.

One fresh egg (9/22 June) :—

a. 44·5 × 30·5 mm.

No. 64. Slightly defined pyriform. Ground-colour pale yellowish white with a greenish tinge, sparingly marked with tolerably large and smaller dirty-brown to blackish-brown and washed-out pale violet-grey spots, which are closer together at the blunt end.

One fresh egg (17/30 June) :—

b. 49·8 × 33·8 mm.

No. 70. Of the usual oviform shape. Ground-colour pale green, closely marked with small yellowish-brown to blackish-brown spots, which are chiefly drawn out on the long axis of the egg, and are collected closer, and to some extent confluent, at the blunt end.

Three slightly incubated eggs $(\frac{23\text{ June}}{6\text{ July}})$:—

c. 42·3 × 29·1 mm.
d. 41·7 × 29·2 ,,
e. 44·3 × 29·7 ,,

No. 84. Similar to No. 64.

One fresh egg $(\frac{29\text{ June}}{12\text{ July}})$:—

f. 42·2 × 31·6 mm.

18. Phalaropus fulicarius was very common. It appeared on the $\frac{30\text{ May}}{12\text{ June}}$ in smaller and larger bands, and remained until the end of August.

19. Sterna macrura arrived very late on the 13/26 June, and nested here and there in the district.

20. LARUS AFFINIS Reinh.—This was the only Gull which occurred in large numbers and bred in the district. The nests were always placed on the large stones which stand up out of the shallow Tundra-lakes. They consisted of a massive structure of peat and clay, and were profusely lined with moss and goose-feathers, chiefly flight-quills, which gave the nest a peculiar prickly appearance. In the middle of June the nests contained two or three eggs. The male incubated and was very careful of the nest, whereas the female kept more out of the way.

21. LARUS GLAUCUS was very rare, and we did not find its breeding-places.

22. PAGOPHILA EBURNEA was only seen once in September and once in July, and evidently does not breed here.

23. STERCORARIUS POMATORHINUS and (24) STERCORARIUS PARASITICUS were both very common, appearing at the end of May, but disappearing almost entirely when the young were able to fly, so that at the end of July only occasional stragglers were to be seen.

25. STERCORARIUS CREPIDATUS I think I saw once in the spring, but am not certain, as none were shot. It certainly does not breed in the district.

26. NYCTEA SCANDIACA.—The Snowy Owl occurs singly all over the Tundra. We found no nests, but I think that I saw fledged young at the end of July.

27. ANTHUS CERVINUS.—Although I carefully watched all the small birds met with, I only saw and shot one example of this species, on the 5/18 June.

28. CALCARIUS LAPPONICUS appeared on the $\frac{\text{31 May}}{\text{13 June}}$, and was common everywhere. In the middle of June its clutches of eggs were complete.

29. PLECTROPHANES NIVALIS.—From the $\frac{\text{19 April}}{\text{2 May}}$ to the

middle of May only stragglers were seen. In the second half of May the main body arrived, and after the 10 June the clutches of eggs were complete. Fledged young were seen in the first half of July.

In conclusion, I may add that Dr. Walter's collection is now in the Zoological Museum at St. Petersburg.

XVIII.—*List of the Birds of the Quangtung Coast, China.*

By J. C. Kershaw, F.Z.S.

The following list of birds is the result of about a year and a half's collecting (October 1901 to June 1903) in the districts round Hongkong and Macao, mostly at the latter place. For the identifications I am mainly indebted to Mr. F. W. Styan. The list of Ducks might be very considerably increased, but I have included only those of which I have shot specimens myself. Attention was chiefly paid to the land-birds, but on the whole the district is a very poor one for trees, the level ground being densely populated and well cultivated, whilst the hills are for the most part barren or sparsely wooded with firs, which are cut periodically for firewood, and never allowed to attain any considerable size. Almost the only patches of wood are behind the villages, and consist principally of banyan and bamboo, with scrubby undergrowth.

The country is hilly and broken, the granite hills rising from one to two thousand feet above sea-level, and their highest points reaching to some three thousand feet.

The winter, from about November to February inclusive, is the dry season; hot on the whole, but with short spells of really cold weather, generally during January and February, when the thermometer occasionally descends to 50° F. in the daytime; whilst the spring and summer are hot and very damp. The spring months are usually the rainiest period. Macao is about forty miles south-west of Hongkong, on the opposite side of the West River estuary. Hongkong is just within the tropics, the line passing through Swatow and about equally dividing Formosa.

1. Corvus torquatus.

Very common and resident. It nests at the end of January or early in February, and feeds its young to a great extent on fish.

2. Pica rustica.

One of the commonest resident birds, frequently seen in parties of twenty or thirty. Breeds in January, building the usual domed nest.

3. Urocissa erythrorhyncha.

A common resident, breeding in April.

4. Dendrocitta sinensis.

A rare bird in this part of the country.

5. Garrulus sinensis.

A rare bird here.

6. Parus cinereus.

Apparently the only Tit in this district. A very common resident.

7. Dryonastes perspicillatus.

A common resident.

8. Trochalopterum canorum.

I have only seen these birds on Hongkong Island, where they may possibly have escaped from the bird-shops, as they are the commonest cage-birds in China.

9. Myiophoneus cæruleus.

A common resident.

10. Larvivora sibilans.

A very common bird in winter.

11. Zosterops simplex.

Very common, moving about the country in little flocks. Resident, and nesting about end of April.

12. Otocompsa emeria.

Fairly numerous and a resident.

13. Pycnonotus atricapillus.

Commoner on the hills, but found all over the district. A resident.

14. Pycnonotus sinensis.

Certainly the commonest Bulbul, and perhaps the most numerous resident bird.

15. Buchanga atra.

Very common in summer, arriving about the middle of April, and leaving about the end of October. It nests in May.

16. Buchanga leucogenys.

Not common. A summer visitor.

17. Buchanga cineracea.

A summer visitor. Not uncommon.

18. Chibia hottentotta.

A rather scarce summer visitor.

19. Pericrocotus cinereus.

A fairly common spring visitor, soon leaving this district, however.

20. Volvocivora melanoptera.

A resident, but not very numerous.

21. Lanius schach.

One of the commonest resident birds and ubiquitous.

22. Lanius fuscatus.

Fairly common and resident. Not nearly such a noisy bird as the Schach Shrike, but frequenting the same localities.

23. Lanius lucionensis.

A fairly common resident.

24. Oriolus diffusus.

A not uncommon resident.

25. Spodiopsar cineraceus.

A winter visitant, not very numerous.

26. Spodiopsar sericeus.

A common bird in winter.

27. STURNIA SINENSIS.

A very common spring visitor, staying to breed, and leaving about the end of September.

28. GRACULIPICA NIGRICOLLIS.

One of the commonest resident birds, breeding in March, when it builds a large untidy nest of coarse grass, roots, and dry pandanus-fibres, lined with finer root-fibres. Two or three nests are often placed in a tree almost bare of leaves, where they are conspicuous objects for miles around.

29. ACRIDOTHERES CRISTATELLUS.

Another very common resident.

30. UROSPHENA SQUAMICEPS.

A common resident.

31. BURNESIA SONITANS.

A very common resident.

32. SUTORIA SUTORIA.

Extremely numerous and a resident.

33. CISTICOLA CISTICOLA.

Common in winter.

34. PHYLLOSCOPUS SUPERCILIOSUS.

Common in winter.

35. PHYLLOSCOPUS FUSCATUS.

Common during winter.

36. PHYLLOSCOPUS PROREGULUS.

Common in winter.

37. PHYLLOSCOPUS TROCHILOIDES.

Also a common winter bird.

38. CRYPTOLOPHA TEPHROCEPHALA.

A somewhat uncommon winter visitor.

39. CETTIA CANTURIENS.

An abundant resident species.

40. HEMICHELIDON GRISEISTICTA.

A common spring visitor.

41. Siphia albicilla.

Common in winter, but I have never shot the fully adult male with a red throat, though I possess a long series of birds.

42. Cyornis hainana.

A winter visitor. The female is fairly common, but I have only shot one male.

43. Stoparola melanops.

A winter bird, and rare.

44. Alseonax latirostris.

Common in winter.

45. Niltava macgrigoriæ.

I have seen only one pair, in winter, the female of which I obtained.

46. Terpsiphone incii.

A spring and autumn visitant, but I have shot only females and immature males, which are plentiful.

47. Terpsiphone princeps.

A spring visitor, appearing about the beginning of April, and passing along the coast in smaller numbers on its return in autumn, about the end of August.

48. Poliomyias luteola.

Common in winter.

49. Cyanoptila bella.

A spring visitant, which arrives about the middle of March, but does not stay through the summer.

50. Xanthopygia narcissina.

A spring visitor, arriving about the beginning of April and leaving before the summer.

51. Hypothymis occipitalis.

Common during winter.

52. Oreicola ferrea.

A somewhat uncommon winter bird.

53. Pratincola maura.

A very common winter visitor.

54. RUTICILLA AURORE A.

Very common during the winter. It arrives about the middle of October and leaves about the end of March.

55. CALLIOPE CAMTSCHATKENSIS.

A winter bird, appearing about November. Not common.

56. IANTHIA CYANURA.

A winter visitor. The females are numerous, but I have shot only one adult male.

57. COPSYCHUS SAULARIS.

One of the most familiar residents. Nests in May.

58. TURDUS HORTULORUM.

A very common bird.

59. TURDUS MANDARINUS.

Very common in winter. It arrives about the end of October, and leaves about April.

60. TURDUS CARDIS.

A common bird in winter.

61. OREOCINCLA VARIA.

Not common. One specimen was shot in winter.

62. MONTICOLA SOLITARIUS.

A common resident.

63. MUNIA ATRICAPILLA.

Not common.

64. MUNIA TOPELA.

One of the commonest resident birds.

65. MUNIA ORIZIVORA.

Not common.

66. UROLONCHA SQUAMICOLLIS.

A very common resident.

67. EOPHONA MELANURA.

Not common.

68. CHLORIS SINICA.

Common and resident.

69. Passer montanus.

This is the common House-Sparrow here.

70. Emberiza fucata.

A fairly common resident.

71. Emberiza spodocephala.

Common in winter.

72. Emberiza aureola.

An autumn visitant, but uncommon on the coast, though at Canton it is netted in vast numbers in September and October, and is known as the "Rice-bird."

73. Melophus melanicterus.

A common resident: it nests in May.

74. Hirundo gutturalis.

This is the common Swallow here: it is a summer visitor, arriving in the beginning of February.

75. Motacilla leucopsis.

The commonest resident Wagtail.

76. Motacilla melanope.

A winter visitant and very common.

77. Limonidromus indicus.

This bird occurs sparingly in winter and spring.

78. Anthus richardi.

A very common bird during the winter, frequenting even the most arid and burnt-up country.

79. Anthus maculatus.

Very common during the winter.

80. Anthus cervinus.

A common winter visitor.

81. Alauda arvensis.

Common in winter.

82. Alauda cœlivox.

Common in spring.

83. DICÆUM CRUENTATUM.

Common and resident. This Flowerpecker feeds both on insects and on the green seeds of various creepers and trees. In winter it is often seen in little parties of three or four, accompanying Tits and Willow-Warblers.

84. DENDROCOPUS CABANISI.

A fairly common resident in the better-wooded districts.

85. IYNX TORQUILLA.

Fairly numerous in winter.

86. EURYSTOMUS CALONYX.

This is a spring and summer bird, irregular in its visits.

87. CERYLE VARIA.

This bird is common in the Macao district, where the shore is muddy, but I have never seen it near Hongkong, where the coast is sandy. It nests in April in holes in banks and cliffs.

88. ALCEDO ISPIDA.

The commonest resident Kingfisher.

89. HALCYON SMYRNENSIS.

A very common resident, though much persecuted for the sake of its plumage, which is used in Canton for ornamental feather-work. It nests in May.

90. HALCYON PILEATUS.

A common resident, also shot for the sake of its feathers.

91. UPUPA EPOPS.

Not common.

92. CYPSELUS PACIFICUS.

A summer visitor only. It feeds to a great extent on a species of beetle which infests the paddy.

93. CAPRIMULGUS MONTICOLA.

Fairly numerous in winter.

94. CAPRIMULGUS JOTAKA.

Apparently only a winter visitor.

95. CUCULUS SATURATUS.

A summer bird. Not very common.

96. CUCULUS MICROPTERUS.

This and the "Rain-bird" (*Cacomantis merulinus*) are the two commonest Cuckoos here. *Cuculus micropterus* arrives about the middle of April and leaves in October. It destroys countless numbers of larvæ of butterflies, some of which are rare, chiefly on this account.

97. HIEROCOCCYX SPARVERIOIDES.

Not uncommon in the summer.

98. CACOMANTIS MERULINUS.

A very common and well-known summer visitant. It arrives about the beginning of March, and sings incessantly day and night till about the end of May. Its notes are more feeble through June, and it leaves about August. It breeds at the end of April. It is known to Europeans in China as the "Rain-bird." The skin, unlike that of most of the Cuckoos, is tough and the feathers are firmly attached.

99. COCCYSTES COROMANDUS.

A resident, but not common.

100. EUDYNAMIS HONORATA.

A very common resident, but its loud call is heard only during spring and summer. It lays in May.

101. CENTROPUS SINENSIS.

A common resident.

102. CENTROPUS BENGALENSIS.

A fairly common resident.

103. ASIO ACCIPITRINUS.

Not uncommon in winter.

104. KETUPA CEYLONENSIS.

Not a common species.

105. BUBO MAXIMUS.

Not common.

106. SCOPS STICTONOTUS.

Fairly numerous.

107. Butastur indicus.

Not common.

108. Milvus melanotis.

Resident and very common, but most abundant in winter. It sometimes follows the plough like a Rook.

109. Accipiter nisus.

Fairly common in winter.

110. Accipiter gularis.

A fairly common winter bird.

111. Falco subbuteo.

A not uncommon resident.

112. Cerchneis tinnunculus.

Probably the commonest Hawk in winter.

113. Turtur orientalis.

A common winter visitant, arriving about November and leaving at the end of April, though a few individuals stay later, and may remain to breed.

114. Turtur humilis.

Not very common. A winter and spring visitor.

115. Turtur chinensis.

The commonest resident Dove.

116. Phasianus torquatus.

Very scarce.

117. Excalfactoria chinensis.

Not uncommon in winter.

118. Coturnix communis.

A winter visitor, very plentiful in the paddy-fields.

119. Francolinus chinensis.

A common resident. It has two broods in the year.

120. Turnix blanfordi.

Not uncommon in winter.

121. TURNIX PUGNAX.

This bird is sometimes shot in winter along with the Common Quail.

122. HYPOTÆNIDIA STRIATA.

Not common.

123. PORZANA PUSILLA.

Not uncommon in winter.

124. AMAURORNIS AKOOL.

This is a common bird, though shy, and keeps to the dense vegetation of the small paddy-field streams and runnels, coming to the cultivated ground morning and evening to feed. The stomachs of two specimens examined were full of paddy.

125. AMAURORNIS PHŒNICURUS.

One of the commonest resident waterfowl.

126. GALLICREX CINEREA.

A common bird in the paddy-fields in summer.

127. FULICA ATRA.

A very common resident on the creeks and rivers.

128. GRUS CINEREA.

Seen in large flocks up the West River in winter.

129. HYDROPHASIS CHIRURGUS.

Not common.

130. STREPSILAS INTERPRES.

A winter visitant.

131. CHARADRIUS FULVUS.

Common in winter.

132. ÆGIALITIS GEOFFROYI.

Apparently a spring visitant.

133. ÆGIALITIS PLACIDA.

A winter bird.

134. ÆGIALITIS MINOR.

Very common in winter.

135. Numenius phæopus.
Not uncommon in winter.

136. Numenius arquata.
A common winter bird.

137. Numenius minutus.
Common on migration in spring.

138. Totanus ochropus.
A common winter bird.

139. Totanus calidris.
Common in winter.

140. Heteractitis brevipes.
Fairly common in winter.

141. Tringa pacifica.
Very common in winter.

142. Heteropygia acuminata.
Shot on migration.

143. Limonites subminuta.
A winter visitant.

144. Tringoides hypoleucus.
A very common resident.

145. Scolopax rusticula.
A fairly common bird in winter.

146. Gallinago cœlestis.
A spring and autumn visitor, usually arriving in large numbers.

147. Gallinago stenura.
A not uncommon resident.

148. Rostratula capensis.
Usually common in spring, but irregular in its visits.

149. Larus canus.
Fairly common.

150. Larus occidentalis.
Also fairly numerous.

151. Pelecanus philippensis.

An uncommon visitor.

152. Phalacrocorax carbo.

A common resident.

153. Phalacrocorax graculus.

Also a common resident.

154. Ardea manilensis.

A winter visitor.

155. Ardea cinerea.

A winter visitant in large flocks to the tidal areas and mud-flats.

156. Herodias garzetta.

Fairly common.

157. Bubulcus coromandus.

A common resident.

158. Ardeola bacchus.

A very common resident.

159. Butorides javanicus.

A common resident.

160. Nycticorax griseus.

Common and resident.

161. Ardetta cinnamomea.

Common and resident.

162. Ardetta sinensis.

Another very common resident.

163. Anas boscas.

Common in winter.

164. Nettion crecca.

Very common.

165. Mareca penelope.

Common in winter.

166. Spatula clypeata.

Common in winter.

167. Fulix marila.

Also common during the winter.

168. Podicipes philippensis.

Very common on the creeks and rivers. A resident.

The nomenclature followed is nearly that of the 'Catalogue of Birds in the British Museum.'

XIX.—*On the* Melierax metabates *of Heuglin.*

By T. Salvadori, H.M.B.O.U.

The real status of the bird described by Heuglin under the name of *Melierax metabates* is still uncertain, and I wish to offer a few remarks on it.

The bird was described by Heuglin* in this journal, the author having been assured by the late Dr. Hartlaub that it was "a good and new species." In fact, Hartlaub repeated the same statement†, saying that "zwischen dieser Art (*Astur musicus*) und *M. polyzonus* steht zwischeninne als gute Art *M. metabates* Heugl."

The type and only specimen obtained was said by Heuglin to be from the "upper Bahr el abiad," or White Nile.

The late Marchese Orazio Antinori, in his catalogue‡, mentions two specimens of a *Melierax* from the White Nile, which, along with others from the Blue Nile, he attributes to *M. polyzonus* (Rüpp.).

Heuglin again, in 1869§, mentions and describes *Melierax metabates* as follows:—"Similis præcedenti [*M. polyzono*], ex toto obscurius tinctus; rectricibus lateralibus fasciis 4-6 nigricantibus: pedibus et ceromate flavis." The dimensions given by Heuglin are somewhat greater than those of *M. polyzonus*.

Dr. Finsch, who, in the second volume of Heuglin's work, published some additions to it, has no remarks about *M. metabates*; but in a previous work, published in conjunction with Hartlaub[*], looks upon *M. metabates* as a doubtful species.

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* Ibis, 1861, p. 72.

† Journ. f. Orn. 1861, p. 100.

‡ Catalogo descrittivo di una Collezione di Uccelli, p. 17 (1864).

§ Orn. N.O.-Afr. i. p. 63.

We come next to Dr. Bowdler Sharpe, who, in the 'Catalogue of Birds'[†], states his opinion that *M. metabates* is "a very doubtful species," apparently established upon an old specimen of *M. polyzonus.* Twenty-five years later Dr. Sharpe[‡] maintains the same opinion as regards Heuglin's species, and Dr. Dubois[§] also considers it doubtful.

Quite recently Dr. Reichenow[||] has said that *Melierax metabates* was probably established on a specimen of *M. polyzonus* not in full plumage.

In order to come to a definite conclusion on this question, it appears to me that there are only two courses—either to examine the type of Heuglin's description or to compare specimens from the White Nile with typical *M. polyzonus.*

As for the type, I do not know whether it is still in existence or where it is to be found. As regards specimens of *Melierax* from the White Nile, I have already alluded to two of them brought home by the late Marchese Antinori, who apparently did not find that they were different from others from the Blue Nile, from Antub, near Khartoum, and Daberki[¶], on the river Dinder. I have now before me three specimens obtained by Antinori, and I find that they are absolutely identical with others from Abyssinia and Shoa. Quite lately Mr. Witherby[**] has met with *M. polyzonus* pretty commonly on the White Nile, and Mr. Ogilvie-Grant also attributes to the same species several specimens collected by Mr. Hawker at Jebel Auli and Kaka, on the White Nile[††].

From all this, it appears that the bird from the White Nile is *Melierax polyzonus,* and it is not likely that a nearly allied species would be found in the same region.

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[*] Die Vögel Ost-Afr. pp. 90, 91, 855 (1870).

[†] Vol. i. p. 92 (1874).

[‡] Hand-list, i. p. 248 (1899).

[§] Synopsis Avium, p. 839 (fasc. xii. 1902).

[||] Die Vögel Afrika's, ii. p. 545 (1901).

[¶] Daberki is not a place in Shoa, as stated by Dr. Reichenow (Die Vög. Afr., Atlas, p. 13), but is on the river Dinder, about 13° N. lat.

[**] Ibis, 1901, p. 270.

[††] Ibis, 1902, p. 441.

Dr. Reichenow, who, as stated above, has already identified *M. metabates* Heugl. with *M. polyzonus* (Rüppell), has shown that, most unfortunately, Rüppell's name for this species cannot be maintained, being preoccupied by *Nisus polyzonus* Less.[*] This is quite true, although Dr. Reichenow is mistaken in regard to Lesson's name belonging to the southern *Melierax canorus* (Rislach). *Nisus polyzonus* Less., the type of which has been figured by Des Murs[†], was established on a specimen brought from the Cape by Delalande, and I think that it has been rightly identified by Dr. Sharpe with *Astur* (or *Scelospizias*) *tachiro*[‡]. Dr. Reichenow mentions *Nisus polyzonus* Less. also among the synonyms of *Astur tachiro*, shewing that his previous statement was made by mistake.

In conclusion, the name *Melierax metabates* of Heuglin (1861), which at that time had no right to stand, the bird to which the name was given not being different from *Falco* (*Nisus*) *polyzonus* Rüpp. (1835), ought, according to Dr. Reichenow, to be restored to use on account of Rüppell's name being preoccupied by *Nisus polyzonus* Less. (1831). I feel that this change is unfortunate, but I cannot see the way to avoid it[§].

XX.—*On the Birds collected during a recent Expedition through Somali-Land and Abyssinia to Lake Tsana.* By W. R. Ogilvie-Grant, F.Z.S. *With Field-Notes by the Collector,* Mr. E. Degen.

(Plates V. & VI.)

During recent years so many naturalists have traversed the countries lying between Zaila on the Somali-Land coast and Adis Ababa, the capital of Abyssinia, that this portion of Mr. Degen's route calls for no special remark.

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[*] Traité d'Orn. p. 58 (1831).

[†] Iconogr. Orn. pl. 61.

[‡] Cat. B. i. p. 99.

[§] [With due respect to our much-esteemed correspondent, we do not quite understand why Rüppell's name *polyzonus* should not be retained for the *Melierax*, as Lesson's name does not refer to the same genus, and is, moreover, merely a useless synonym of *Astur tachiro* Daud.—Edd.]

We may likewise pass over his trip from the capital to Lake Zwai, over ground visited in 1899 by Mr. J. J. Harrison and a year later by Mr. A. E. Pease (*cf.* 'Ibis,' 1901, pp. 278 & 607).

Although a number of valuable bird-skins were procured while passing through these lands, no species was met with of which examples had not previously been obtained by Lord Lovat or by the travellers already mentioned.

As might be expected, it was during his journey to the north, from Adis Ababa to Lake Tsana, that Mr. Degen came across the most interesting forms of bird-life. This portion of his route lay across extremely difficult country, where the high plateaux were intersected by the mighty gorges of the Blue Nile and its tributaries. From Mr. Degen's somewhat copious journal I have endeavoured to make the following *précis,* which will give some idea of the great difficulties encountered and successfully overcome.

Having engaged men for the trip and purchased the requisite number of mules, Mr. Degen and his caravan left the British Agency at Adis Ababa on the 14th of April, 1902. On the third day's march a sudden turn in the road brought the party to the edge of the Gombitchu plateau, where it terminates abruptly in a precipice about 5,000 feet high overhanging the Mogre River. The descent was at last safely accomplished, but the mules required very careful handling and manœuvring, and even then, in descending the cliffs to the first ridge, several animals became wedged between boulders of basalt and had to be unloaded. Many parts of the descent entailed a series of jumps from one great rocky step to another, with a drop of four or five feet between them, recalling the structure of the Pyramids.

Having crossed the Mogre River and regained the high plateau opposite, the same difficulties were again encountered in making the descent to the Blue Nile, or Abbai as it is locally called, especially in traversing the deep ravine leading to the lowest terrace, through which the river has in the course of ages cut its way. This sheer cliff, probably of Silurian origin, confines the river on either side with scarcely a break in its nearly perpendicular walls; and the descent has to be made over slippery, polished boulders, worn smooth by the constant traffic of hoofs. After crossing the Blue Nile great difficulties were again encountered in surmounting the first terrace. Half the mules had to be unloaded and the baggage carried up through a funnel-like passage in the rock by natural steps five or six feet in height, and some of the frightened animals had even to be lifted up bodily by the men. An ascent of about 5,000 feet brought the weary members of the caravan at last to their camping-ground overlooking the junction of the River Muga with the Blue Nile. The panoramic view from this camp is described by Mr. Degen as being the most magnificent that it has ever been his lot to behold, and an ample reward for one of the hardest and most anxious days experienced during the expedition.

Another morning of stiff climbing and the high northern plateau was once more reached. After a detour made to avoid the deep channel of the Betchet River, the route passed for days over grassy plains and prairie country, no river of any size or importance being met with till the Godeb, Tamtcha, and Birr Rivers were successively reached and forded. The gigantic Amedamid mountains now lay immediately in front, stretching across the valley like an impassable barrier and rising for 7,000 feet above the level of the plateau, with a real altitude of 16,000 feet. The steep track crosses this chain at an elevation of 13,000 feet and thence gradually descends across minor ranges and streams to that great inland sea, Lake Tsana, which was reached on the 10th of May, 1902.

Three weeks were spent at the south end of the lake, the camp being first fixed on the Zigi peninsula and thence moved to Bahar-Dhar, where the Blue Nile leaves the lake.

On the 6th of June, the rainy season having now set in in earnest, the journey south was commenced, with a series of forced marches. A more westerly course was followed to

Bure, the track subsequently intersecting the northern route at Godeb, and then turning south through Liben and Kutai. The crossing of the Blue Nile at Zamea, though supposed to be less dangerous than that at Dedgen, proved equally difficult and perilous, but all the animals and their loads eventually got safely across. The journey over the hilly ground to Adis Alam occupied many days, and it was not until the 30th of June, 1902, that the capital was once more reached.

One of the primary objects of Mr. Degen's expedition was to obtain examples of the fresh-water fishes of Abyssinia, especially of Lake Tsana, and no opportunity was lost of adding to the series. A preliminary report on the collection, which contains many new and interesting fishes, has been published by Mr. G. A. Boulenger, F.R.S. Under the circumstances it is surprising that Mr. Degen should have been able single-handed to collect and prepare so many skins of mammals and birds. The series of the latter includes examples of two new species, a Barbet (*Melanobucco tsanæ*) and a Lark (*Mirafra degeni*), as well as of two specially rare and interesting Owls, one of which (*Asio abyssinicus*) is new to the British Museum.

As examples of most of the species represented in the present collection were procured either by Lord Lovat or by Mr. A. E. Pease during their recent expeditions to Abyssinia, reference is made in most instances to the articles on their collections already published in 'The Ibis.' To save repetition the titles of these papers have been abbreviated as follows:—

Mr. Grant's article on the birds collected during the expedition of Mr. Weld-Blundell and Lord Lovat (1898–9) (Ibis, 1900, pp. 115–178 and pp. 304–337) is quoted as "Grant."

Messrs. Grant and Reid's article on the birds collected on Mr. Pease's expedition (1900–1) (Ibis, 1901, pp. 607–699) is quoted as "Grant & Reid."

The scientific names used in the above-mentioned articles are the same as those employed in the present paper, unless otherwise stated.

Itinerary of the Expedition (1901–2).

Dec. 13. Zaila, Somali-Land.
,, 19. Warabod, 500 ft., ,,
,, 19. Manda, 1,000 ft., ,,
,, 20. Hensa, 2,000 ft., ,,
,, 23. Hirabon, 2,500 ft., ,,
,, 23. Gale Dabal, 3,000 ft., ,,
,, 26. Dabas, 3,500 ft., ,,
,, 27. Gulda, ,,
,, 30. Balawa, 8,000 ft., Upper Galla-Land.
,, 31. Dagu Delali, 9,850 ft., ,,
Jan. 1. Harrar, 6,200 ft., ,,
,, 1. Harramaier, 8,700 ft., ,,
,, 16. Bijo, 9,000 ft., ,,
,, 18. Mirti, ,,
,, 19. Hoorsa, 7,000 ft., ,,
,, 20. Errer, 6,000 ft., ,,
,, 21. Marmasa, 5,000 ft., Danakil.
,, 24. Daira Aila, ,,
,, 26. Doba, ,,
,, 27. Oda, ,,
,, 28. Furrasso, Mulu R., ,,
,, 30. Billen, 3,500 ft., Hawash R., Danakil.
Feb. 1. Amibarra, Danakil.
,, 5. Seddimulka, ,,
,, 6. Owaramulka, 4,500 ft., Kassim R., Danakil.
,, 8. Tadejemulka, Danakil.
,, 10. Manniballa, Shoa.
,, 11. Balchi, 7,000 ft.
,, 13. Jelli Dunsa, 8,000 ft.
,, 14. Hambissa.
,, 25. Duhome, Loya R., Aroussi.
,, 28. Ashoufi, Mt. Sequala, ,,
Mar. 2. Lake Ailan, ,,
,, 3. Buggali, Maki R., ,,
,, 5. Hara, Lake Zwai, 4,000 ft., Aroussi.
,, 8. Serba, Lake Zwai, Aroussi.
,, 12. Quala, 4,500 ft., Guerague.
,, 14. Bogra, Upper Hawash R., 5,000 ft., Guerague.
,, 15. Dedota, 5,500 ft., Upper Hawash R., Guerague.
,, 18. Akaki R., Guerague.
Mar. 23 to April 14. Adis Ababa, 8,500 ft.
Mar. 30. Akaki R.
April 14. Sulultra, 9,000 ft., Shoa.
,, 15. Gombitchu, 8,000 ft., ,,
,, 17. Gomar, Mogre R., 6,000 ft., ,,
,, 18. Yai-yai, 7,000 ft., ,,
,, 22. Dedgen, 4,000 ft., Damot, Godjam.
,, 22. Yensitcha, 8,000 ft., ,, ,,
,, 23. Dubra Marcos (Moncarar), ,,
,, 25. Yeddib, Godeb R., Damot, ,,
,, 26. Dembretcha, ,, ,,
May 3. Din, 6,000 ft., ,, ,,
,, 6. Ibad, Amedamids, 12,000 ft., Miessa, Godjam.
,, 6. Addet, Miessa, Godjam.
,, 9. Goubré, ,, ,,
,, 10. Unfras R., Lake Tsana.
,, 12. Zegi, Lake Tsana.
June 5. Bahar-Dhar, Lake Tsana.
,, 8. Kude, Agaumeder, Godjam.
,, 10. Bure, 11,000 ft., Agaumeder.
,, 18. Zamea, 8,000 ft., Liben.
,, 20. Hiressa, 8,000 ft., ,,
,, 21. Ahouillet, 9,000 ft., Kutai.
,, 23. Katchessa, 9,500 ft., ,,
,, 24. Batadino, 8,000 ft., ,,
,, 25. Dodgit, 9,500 ft., Mecha.
,, 27. Worrumbutchi, 10,000 ft., Mecha.
,, 28. Adis Alam, 10,500 ft., ,,
,, 29. Manna Gasha, 10,000 ft., Shoa.
July 4. Adis Ababa, 8,500 ft.
,, 9. Jelli Dunsa, 8,000 ft., Kassim R., Shoa.
,, 13. Gadaburka, 7,000 ft., Shoa.
,, 14. Manniballa, Shoa.
,, 16. Choba, ,,
,, 17. Tadejemulka, Danakil.
,, 21. Lago Arbo, ,,
,, 22. Mt. Asebot, 6,000 ft., Danakil.
,, 24. Miessa, Danakil.
,, 25. Mulu River, Danakil.
,, 26. Ala-Oola, ,,
,, 31. Lalliballa, 3,500 ft., Upper Galla.
Aug. 5. Uarof, 2,500 ft., ,, ,,
,, 7. Jibouti.

CORVUS SCAPULATUS. (Grant & Reid, p. 610.)
a. ♀ ad. Manniballa, 10th February. No. 196.

CORVULTUR CRASSIROSTRIS. (Grant, p. 120.)
a. ad. Southern Abyssinia. No data.

LAMPROCOLIUS CHALYBEUS. (Grant & Reid, p. 611.)
a, b. ♂. Harrar, 14th January. Nos. 74, 75.

CINNAMOPTERUS TENUIROSTRIS.

Cinnamopterus tenuirostris (Rüpp.); Sharpe, P. Z. S. 1900, p. 602.

The Slender-billed Red-winged Starling is a rare and local species. It was not met with by the Blundell-Lovat, Pease, or Harrison expeditions to Southern Abyssinia.

Dr. Sharpe (*op. cit.*) has already pointed out that the plumage of the female is different to that of the male, the feathers of the head and neck being spotted at the tips with grey and the rest of the contour-feathers margined with the same colour.

a. ♀. Ahouillet, 22nd June. No. 379.
b, c. ♂ ♀. Dembretcha, 30th April. Nos. 315, 316.

SPREO SUPERBUS. (Grant & Reid, p. 612.)
a. ♂. Gale Dabal, 25th December. No. 27.

COSMOPSARUS REGIUS. (Grant & Reid, p. 612.)
a. ♂. Gale Dabal, 25th December. No. 26.
b. c. ♂. Mirti, 18th January. Nos. 120, 121.

DILOPHUS CARUNCULATUS. (Grant, p. 121.)
a. b. ♂ ♀. Daira Aila, 24th January. Nos. 132, 133.
c. ♀. Ala-Oola, 25th July. No. 443.

BUPHAGA ERYTHRORHYNCHA. (Grant & Reid, p. 612.)
a. ♀. Harramaier, 16th January. No. 83.

[Iris blood-red, pupil dark blue, naked ring bright vivid yellow; bill carmine-red; feet reddish brown.—E. D.]

BUCHANGA ASSIMILIS. (Grant & Reid, p. 613.)
a. ♂. Bogra, 14th March. No. 262.

ORIOLUS LARVATUS. (Grant & Reid, p. 613.)

a–c. ♂ ♀. Lake Zwai, 6th–7th March. Nos. 225, 231, 232.

d. ♂. Bogra, 14th March. No. 259.

e, f. ♀ imm. Dedota, 15th–17th March. Nos. 264, 276.

ORIOLUS MONACHUS.

Oriolus monachus, Grant, Ibis, 1900, p. 566, figs. 1 & 2.

Oriolus meneliki, Blundell & Lovat; Grant, Ibis, 1900, p. 122, pl. ii. & p. 566, figs. 1 & 2.

The six birds collected by Mr. Degen shew that the black band across the middle of the outer tail-feathers is a variable character not dependent on age or locality.

Two adults (*a* and *b*) from the Mogre River have a more or less extensive patch of yellowish green on the basal half of the outer tail-feathers, terminated by a dusky border or band.

Another adult specimen (*c*) from the same locality has the band across the basal part blackish.

Specimen *e* has the band wider and blacker.

In specimen *f* the band is widest, about 0·5 inch.

It will thus be seen that the specimens mentioned above agree with the other specimens of *O. monachus* in the British Museum Collection (*cf.* Ibis, 1900, p. 565, figs. 1 & 2) and differ from the examples in the Turin Museum, some of which have a heavy black band across the outer tail-feathers about an inch and a half wide.

Specimen *d.* An immature female from the Mogre River has only a patch of yellowish green on the basal part of the outer web of the 2nd, 3rd, and 4th pairs of tail-feathers and shews no trace of a black band.

a–d. ♂ ♀ ad. et ♀ juv. Mogre River, 17th April. Nos. 297, 300, 301.

e. ♂. Katchessa, 23rd June. No. 381.

f. ♂. Zamea, 18th June. No. 364.

VIDUA PRINCIPALIS. (Grant & Reid, p. 613.)

a, b. ♀. Daira Aila, 25th January. Nos. 145, 146.

STEGANURA PARADISEA. (Grant, p. 123.)

A pair in full breeding-plumage.

a, b. ♂ ♀. Tadejemulka, 8th February. Nos. 193, 194.

PENTHETRIA LATICAUDA. (Grant, p. 123.)

Both males are in winter plumage.

a, b. ♂ ♀. Harrar, 1st–3rd January. Nos. 43, 50.

c. ♂. Dedgen, 22nd April. No. 306.

PENTHETRIOPSIS MACROCERCA. (Grant, p. 124.)

a–f. ♂ et ♂ imm. Jeffi Dunsa, 11th July. Nos. 407, 411–415.

UROBRACHYA TRAVERSI. (Grant & Reid, p. 614.)

Only flocks of males were met with in the month of June, and the same remark applies to the two species previously mentioned, viz. *Penthetria laticauda* and *Penthetriopsis macrocerca.*

a, b. ♂. Manna Gasha, W. of Adis Ababa, 30th June. Nos. 404, 405.

PYROMELANA FRANCISCANA. (Grant & Reid, p. 615.)

Three of the specimens received have partly attained the black breast, the other three are in full breeding-dress. The species was not met with in February during the northward journey, but coming southwards in July flocks of males were very plentiful. No females were seen.

a–f. ♂. Gadaburka, 13th July. Nos. 417–422.

PYROMELANA XANTHOMELÆNA. (Grant & Reid, p. 615.)

The birds procured in April are in undress plumage, whereas those obtained in July are in full breeding-dress. The flocks met with contained only male birds.

a–c. ♂. Jeffi Dunsa, 10th–11th July. Nos. 408, 409, 416.

d, e. ♂. Gombitchu, 15th April. Nos. 294, 295.

PLOCEIPASSER MELANORHYNCHUS. (Grant & Reid, p. 616.)

a, b. ♂ ♀. Ala-Oola, 26th July. Nos. 446, 447.

c. ♂. Tadejemulka, 17th July. No. 431.

d. ♀. Serba, Lake Zwai, 8th March. No. 246.

QUELEA ÆTHIOPICA. (Grant & Reid, p. 616.)

a–h. ♂ ♀. Lalliballa, 31st July. Nos. 450–457.

SPERMESTES SCUTATA. (Grant & Reid, p. 616.)

a–c. ♂ ♀. Daira Aila, 24th January. Nos. 136–138.

LAGONOSTICTA BRUNNEICEPS. (Grant & Reid, p. 617.)

a. ♂. Harrar, 3rd January. No. 47.

PYTELIA AFFINIS. (Grant & Reid, p. 617.)

Two fine adult males.

a. ♂. Daira Aila, 25th January. No. 144.

b. ♂. Owaramulka, 6th February. No. 184.

ESTRILDA MINOR. (Grant & Reid, p. 619.)

a, b. ♂ ♀. Zegi, Lake Tsana, 19th May. Nos. 336, 337.

[Very common in the neighbourhood of towns, where it seems to represent the Common Sparrow.—E. D.]

ESTRILDA PHŒNICOTIS. (Grant & Reid, p. 619.)

a. ♂. Harrar, 6th January. No. 56.

b. ♂. Manniballa, 14th July. No. 426.

c, d. ♂ ♀. Dedota, 15th & 17th March. Nos. 267, 275.

GRANATINA IANTHINOGASTER. (Grant & Reid, p. 620.)

a, b. ♂ ♀. Mirti, 18th January. Nos. 125, 126.

c. ♀. Oda, 29th January. No. 155.

SPORÆGINTHUS OCHROGASTER.

Sporæginthus margaritæ Blundell & Lovatt; Grant, p. 130, pl. iii. fig. 1.

Sporæginthus ochrogaster Salvad.; Grant, p. 304, footnote.

A single male of this rare Weaver-Finch was shot out of a flock of *Estrilda minor*.

a. ♂. Zegi, Lake Tsana, 19th May. No. 335.

ANAPLECTES MELANOTIS. (Grant & Reid, p. 620.)

a. ♂. Mirti, 18th January. No. 128.

b, c. ♂ ♀. Hoorsa, 19th January. Nos. 110, 111.

HETERHYPHANTES BAGLAFECHT. (Grant & Reid, p. 621.)

An interesting series of specimens shewing the various stages of plumage between the winter and the breeding dress.

a, b. ♂ ♀. Harrar, 3rd & 6th January. Nos. 52, 59.

c. ♂. Harramaier, 16th January. No. 82.

d, e. ♂ ♀. Adis Ababa, 4th April. Nos. 288, 289.

f. ♂. Dodgit, 25th June. No. 389.
g, h. ♂ ♀. Ahouillet, 21st–22nd June. Nos. 374–376.
i. ♂. Dedgen, 22nd April. No. 308.
k. ♀. Yensitcha, 23rd April. No. 310.

SITAGRA LUTEOLA.

Sitagra luteola (Licht.); Sharpe, Cat. B. Brit. Mus. xiii. p. 425 (1890).

This is the most southern locality in North-east Africa from which we have received specimens.

a. ♀. Owaramulka, 6th February. Nos. 181, 182.
b. ♂. Lake Zwai, 7th March. No. 234.

HYPHANTORNIS GALBULA. (Grant & Reid, p. 621.)

a. ♀. Bijo, 17th January. No. 98.
b. ♂. Daira Aila, 24th January. No. 141.
c, d. ♂ ♀. Seddimulka, 5th February. Nos. 179, 180.
e. ♀. Manniballa, 14th July. No. 424.
f. ♀. Quala, 12th March. No. 255.
g. ♀. Dedota, 15th March. No. 273.
h. ♀. Ahouillet, 22nd June. No. 377.

HYPHANTORNIS ABYSSINICUS. (Grant & Reid, p. 622.)

a. ♀. Harrar, 6th January. No. 57.
b. ♂. Buggali, 4th March. No. 218.
c. ♀. Dedota, 17th March. No. 277.
d. ♂. Bahar-Dhar, 5th June. No. 358.
e. ♂. Zegi, Lake Tsana, 23rd May. No. 344.

[The males kept together in small flocks.—E. D.]

TEXTOR INTERMEDIUS. (Grant & Reid, p. 623.)

a. ♂. Hoorsa, 19th January. No. 107.
b. ♂ imm. Furrasso, 28th January. No. 156.
c. ♂ imm. Mt. Afdab, Mulu River, 25th July. No. 441.

DINEMELLIA DINEMELLI. (Grant & Reid, p. 623.)

a, b. ♂ ♀. Mt. Afdab, Mulu River, 25th July. Nos. 439, 440.
c. ♂. Oda, 27th January. No. 151.

CHRYSOMITRIS NIGRICEPS. (Grant & Reid, p. 624.)
a, b. ♂ ♀. Manna Gasha, 29th June. Nos. 402, 403.
c. ♂. Adis Alam, 28th June. No. 399.

CHRYSOMITRIS CITRINELLOIDES. (Grant & Reid, p. 624.)
a. ♀. Hara, Lake Zwai, 7th March. No. 235.
b. ♀ [♂]. Ahouillet, 21st June. No. 372.

Specimen *b*, though marked ♀ by Mr. Degen, is doubtless an adult male.

PETRONIA PYRGITA. (Grant & Reid, p. 624.)
a. ♂. Gulda, 27th December. No. 31.
b. ♀. Ala-Oola, 26th July. No. 442.
c. ♀. Owaramulka, 7th February. No. 189.

PETRONIA DENTATA. (Grant, p. 134.)
a. ♀. Lago Arbo, 21st July. No. 432

PASSER SWAINSONI. (Grant & Reid, p. 625.)
a. ♂. Manniballa, 10th February. No. 197.
b, c. ♀. Adis Ababa, 4th April, 4th July. Nos. 296, 406.

SERINUS STRIOLATUS. (Grant, p. 135.)
a. ♂. Sulultra, 14th April. No. 292.
b. ♀. Worrumbutchi, 27th June. No. 397.

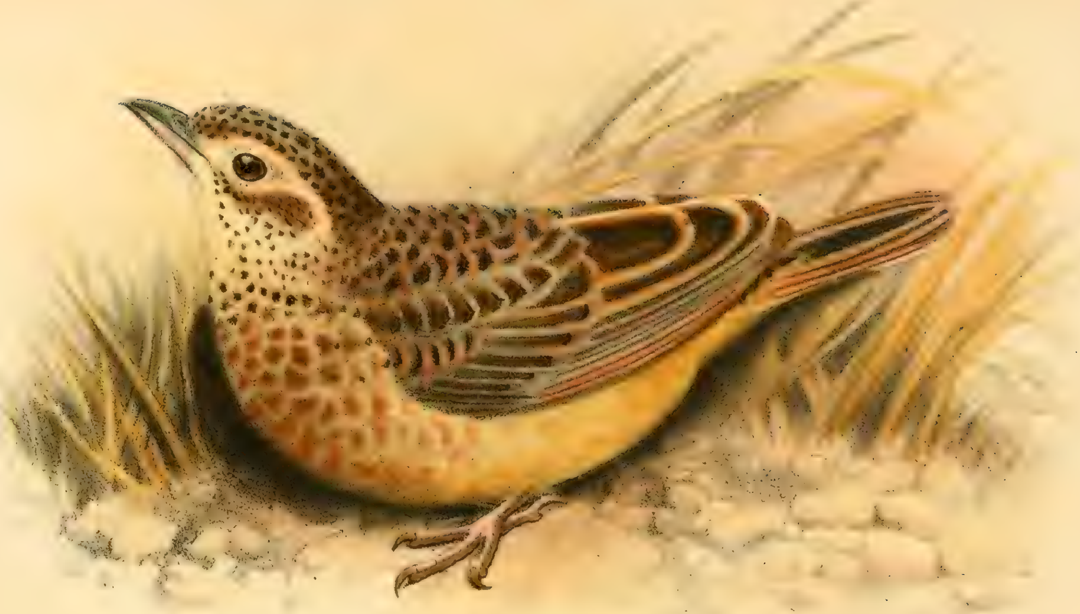
[Only met with on the bush-clad cliffs of the highest ground.—E. D.]

SERINUS MACULICOLLIS. (Grant & Reid, p. 625.)
a. ♂. Errer, 20th January. No. 113.
b, c. ♂ ♀. Ala-Oola, 26th July. Nos. 444, 445.

SERINUS REICHENOWI. (Grant & Reid, p. 626.)
a. ♂. Manniballa, 10th February. No. 199.
b. ♂. Serba, Lake Zwai, 8th March. No. 237.
c. ♀. Dedota, 15th March. No. 270.

EMBERIZA POLIOPLEURA. (Grant & Reid, p. 626.)
a. ♂. Owaramulka, 7th February. No. 188.

FRINGILLARIA TAHAPISI. (Grant & Reid, p. 626.)
a. ♀. Furrasso, 28th January. No. 158.
b. ♀. Dedota, 15th March. No. 272.



H. Goodchild del. et lith.

Mintern Bros. imp.

MIRAFRA DEGENI.

FRINGILLARIA SEPTEMSTRIATA. (Grant, p. 137.)
a. ♂. Manniballa, 15th July. No. 425.

ALÆMON DESERTORUM. (Grant & Reid, p. 626.)
a–c. ♂ ♀. Zaila, 13th & 16th December. Nos. 3, 4, 12.

SPILOCORYDON HYPERMETRUS. (Grant & Reid, p. 627.)
a. ♂. Billen, 1st February. No. 171.

MIRAFRA DEGENI. (Plate V.)

Mirafra degeni, Grant, Bull. B. O. C. xiii. no. xciii. p. 28 (1902).

Mirafra fischeri, Salvad. (nec Reich.) Ann. Mus. Civ. Genov. xxvi. p. 267 (1888) [Shoa]; Grant & Reid, Ibis, 1901, p. 628 [Rora, S. Abyssinia].

Adult male in summer plumage.—Differs from *M. fischeri* Reich. in being somewhat larger and in having most of the feathers of the interscapulary region *black*, with rufous-brown margins; the inner secondaries similarly coloured; and the feathers of the chest and sides of the breast *brick-red*, fringed with pale buff. Iris chocolate-brown; bill grey; feet light brown. Total length ca. 6 inches, wing 3·3–3·4, tail 2·35, tarsus 1·05.

In *M. fischeri* the feathers of the interscapulary region are mostly reddish brown, with irregular, confluent, transverse black markings down the middle; the inner secondaries are mostly reddish brown, with a black and pale buff marginal band; and the chest-feathers cinnamon-buff.

The types were obtained by Mr. Degen at Hiressa, 8000 ft., between Adis Ababa and Lake Tsana, on 20th June.

A male procured by Mr. A. E. Pease at Kora, South Abyssinia, on 10th February, and at first identified as *M. fischeri*, belongs to this species, and may be described as follows:—

Adult male in winter plumage.—Resembles the male in summer plumage in having the feathers of the interscapulary region black; but the edgings of the feathers of the upper parts and wings are whitish, while the chest and under parts are coloured as in *M. fischeri*.

a, b. ♂. Hiressa, 20th June. Nos. 367, 371. [*Types of the species.*]

Iris chocolate-brown; feet light brown; bill grey.

[This Bush-Lark was met with on the highest plateaux at an elevation of about 8000 feet, in open spaces between the heavily wooded tracts.—E. D.]

GALERIDA CRISTATA. (Grant & Reid, p. 629.)

a. Ad. Warabod, 19th December. No. 13.

AMMOMANES ASSABENSIS.

Ammomanes akeleyi, Grant & Reid (nec Elliot), Ibis, 1901, p. 629 [Somadu].

Ammomanes assabensis, Salvad. Boll. Tor. xvii. no. 425 (1902).

Mr. Degen procured a pair of individuals of this dark form of Desert-Lark, which agree perfectly with the bird collected at Somadu by Mr. A. E. Pease and with the specimens from Assab recently forwarded to the Museum by Count Salvadori for identification, and subsequently described by him under the above name.

a, b. ♂ ♀. Hensa, 20th December. Nos. 16, 17.

PYRRHULAUDA LEUCOTIS. (Grant & Reid, p. 629.)

a, b. ♂. Uarof, 5th August. Nos. 461, 462.

PYRRHULAUDA MELANAUCHEN. (Grant & Reid, p. 630.)

a–d. ♂ ♀. Zaila, 14th December. Nos. 7–10.

e–g. ♂ ♀. Uarof, 5th August. Nos. 458–460.

MOTACILLA ALBA. (Grant & Reid, p. 630.)

a. ♂. Harramaier, 16th January. No. 81.

MOTACILLA LONGICAUDATA. (Grant & Reid, p. 630.)

a. ♀. Marmasa, 22nd January. No. 114.

MOTACILLA MELANOPE. (Grant, p. 140.)

a. ♀. Hoorsa, 19th January. No. 164.

MOTACILLA BOREALIS. (Grant, List of B. Somaliland and Abyssinia, App. to Pease, iii. p. 176, 1902.)

a. ♂ imm. Hara, Lake Zwai, 5th March. No. 221.

b, c. ♂ ♀ imm. Serba, Lake Zwai, 9th March. Nos. 250, 251.

ANTHUS CAMPESTRIS. (Grant & Reid, p. 632.)
a. ♂. Manda, 19th December. No. 14.

ANTHUS PYRRHONOTUS. (Grant & Reid, p. 632.)
a, b. ♂ ♀. Harrar, 3rd & 6th January. Nos. 53, 63.

ANTHUS SORDIDUS. (Grant & Reid, p. 632.)
a. ♀. Harrar, 6th January. No. 64.
b, c. ♂ ♀. Balchi, 11th February. Nos. 200, 201.

ANTHUS RUFULUS. (Grant & Reid, p. 633.)
a, b. ♂ ♀. Dagu Delali, 31st December. Nos. 39, 40.
c. ♂. Adis Ababa, 3rd April. No. 287.

MACRONYX FLAVICOLLIS. (Grant & Reid, p. 633.)
a. ♂. Dembretcha, 26th April. No. 314.

NECTARINIA PULCHELLA. (Grant & Reid, p. 634.)
a. ♂ imm. Seddimulka, 5th February. No. 176.
b. ♂ imm. Dedota, 15th March. No. 269.

NECTARINIA TACAZZÆ. (Grant, p. 143.)
a, b. ♂. Dodgit, 25th June. Nos. 386, 387.
c. ♂. Batadino, 24th June. No. 382.

CINNYRIS HABESSINICUS. (Grant & Reid, p. 634.)
a, b. ♂. Gale Dabal, 23rd & 25th December. Nos. 21, 25.
c. ♀. Owaramulka, 7th February. No. 187.

CINNYRIS ALBIVENTRIS. (Grant & Reid, p. 635.)
a. ♂ vix ad. Gale Dabal, 25th December. No. 23.

CINNYRIS OSIRIS. (Grant & Reid, p. 635.)
a. ♂. Dedota, 15th March. No. 268.

CINNYRIS GUTTURALIS. (Grant & Reid, p. 636.)
a. ♀. Balawa, 30th December. No. 34.
b, c. ♂ imm. et ♀. Bijo, 16th & 17th January. Nos. 89, 101.
d–g. ♂ ♀. Dedota, 15th–17th March. Nos. 263, 265, 266, 277.
h. ♀. Quala, 12th March. No. 256.

CINNYRIS AFFINIS. (Grant, p. 144.)

a. ♂. Adis Ababa, 4th July. No. 406.

b. ♂. Dodgit, 25th June. No. 388.

c, d. ♂ et [♂ imm.]. Dedgen, 22nd April. Nos. 303, 304.

e, f. ♂ et [♂ imm.]. Zegi, Lake Tsana. 19th May. Nos. 338, 339.

ZOSTEROPS ABYSSINICUS. (Grant, p. 144.)

a. ♂. Bijo, 17th January. No. 95.

[Iris yellowish brown; feet tinged with greenish; bill olive-green.—E. D.]

ZOSTEROPS TENELLA.

Zosterops aurifrons Heugl. (nec Temm.) J. f. O. 1862, p. 41 [Keren].

Zosterops tenella, Hartl. J. f. O. 1865, p. 11 [Keren].

This species is new to the British Museum Collection. It is a larger bird than *Z. senegalensis,* which it otherwise closely resembles. Wing 2·2 inches.

a. ♂. Unfras R., 10th May. No. 326.

ZOSTEROPS SCHOANA.

Zosterops tenella, Neumann (nec Hartl.), J. f. O. 1902, p. 133.

Zosterops schoana. Neumann, Orn. Monats. xi. no. 12, p. 185 (1903).

This form, if really distinct, is new to the Museum Collection. The species was partly based by Mr. Neumann on the specimens mentioned below. The female type from Abuje, Shoa, is in the Neumann Collection.

a. ♂. Dodgit, 26th June. No. 392. [*Type of male.*]

b. ♀. Ahouillet, 21st June. No. 372.

c. ♀. Addet, 8th May. No. 322.

PARUS LEUCOMELAS. (Grant & Reid, p. 636.)

a, b. ♂. Serba, Lake Zwai, 8th March. Nos. 242, 243.

PARUS LEUCONOTUS. (Grant & Reid, p. 637.)

a. ♂. Dodgit, 26th June. No. 393.

b. ♂. Batadino, 24th June. No. 383.
c. ♂. Katchessa, 23rd June. No. 380.

TELEPHONUS MINUTUS. (Grant, p. 146.)
a. ♂. Bure, 12th June. No. 363.

TELEPHONUS BLANFORDI. (Grant & Reid, p. 637.)
a. ♀. Harramaier, 15th January. No. 77.
b. ♂. Manniballa, 10th February. No. 198.
c, d. ♂ ♀. Akaki River, 18th March. Nos. 278, 279.
e. ♂. Quala, 12th March. No. 253.
f. ♂. Hiressa, 20th June. No. 368.

DRYOSCOPUS FUNEBRIS. (Grant & Reid, p. 637.)
a, b. ♂ ♀. Hirabon, 23rd December. Nos. 19, 20.
c. ♀. Gale Dabal, 25th December. No. 22.
d. ♂. Daira Aila, 25th January. No. 142.

DRYOSCOPUS ÆTHIOPICUS. (Grant & Reid, p. 638.)
a. ♀. Harrar, 3rd January. No. 55.

DRYOSCOPUS MALZACII. (Grant & Reid, p. 638.)
a, b. ♂ ♀. Hoorsa, 19th January. Nos. 105, 106.
c, d. ♂ imm. Miessa, 24th July. Nos. 435, 436.
e. ♂. Serba, Lake Zwai, 8th March. No. 244.
f, g. ♂ ♀. Zegi, Lake Tsana, 23rd May. Nos. 345, 346.

LANIARIUS CRUENTUS. (Grant & Reid, p. 639.)

Mr. Neumann [Orn. Monats. xi. p. 182 (1903)] has recently separated specimens from North and South Somali-Land under the name of *Pelicinius cruentus hilgerti*. They are slightly darker and more brightly coloured, especially on the sides of the body, than birds from Erythrea, Bogos-Land, and Southern Abyssinia.

a, b. ♀. Mirti, 18th January. Nos. 122, 123.
c. ♂. Tadejemulka, 17th July. No. 429.

LANIARIUS SULPHUREIPECTUS. (Grant & Reid, p. 639.)
a, b. ♂ ♀. Hoorsa, 19th January. Nos. 108, 109.
c. ♀. Quala, 13th March. No. 257.
d. ♂. Serba, Lake Zwai, 8th March. No. 241.

LANIARIUS BLANCHOTI. (Grant & Reid, p. 639.)

The female has the dark cinnamon colour on the breast much more developed than in the male.

a. ♀. Billen, 1st February. No. 172.
b. ♂. Hara, Lake Zwai, 5th March. No. 223.

LANIARIUS POLIOCEPHALUS subsp. CATHAROXANTHUS.

Malaconotus catharoxanthus, Neumann, J. f. O. 1899, p. 391.

The male from Hiressa seems to bear out the differences ascribed to this form by Mr. Neumann. It differs from the series of typical *L. poliocephalus* from West Africa in having the under parts uniform bright yellow, without any trace of the cinnamon wash on the breast *usually* characteristic of the latter.

a. ♂. Hiressa, 19th June. No. 366.

NILAUS AFER. (Grant & Reid, p. 641.)

a. ♂. Goubré, 9th May. No. 325.

NILAUS MINOR. (Grant & Reid, p. 641.)

a. ♂. Oda, 27th January. No. 153.

LANIUS DEALBATUS.

Lanius dealbatus, Defilippi; Grant, Nov. Zool. ix. p. 458, pl. xxvii. fig. 9 (1902).

A young bird with the plumage of the upper parts sandy grey.

a. ♀ vix ad. Buggali, 3rd March. No. 214.

Iris dark hazel; upper mandible horn-coloured, lower greyish; feet grey.

LANIUS EXCUBITORIUS.

Lanius excubitorius, Grant & Reid, p. 641; Grant, Nov. Zool. ix. p. 469 (1902).

a. ♀. Billen, 31st January. No. 167.
b, c. ♂. Duhome, 25th February. Nos. 210, 211.

LANIUS NUBICUS.

Lanius nubicus, Grant, p. 149; id. Nov. Zool. ix. p. 461 (1902).

a. ♂. Billen, 31st January. No. 162.

LANIUS HUMERALIS.

Lanius humeralis, Grant & Reid, p. 642; Grant, Nov. Zool. ix. p. 466 (1902).

a. ♀. Harrar, 14th January. No. 73.

b. ♂ juv. Zegi, Lake Tsana, 31st May. No. 357.

LANIUS ANTINORII.

Lanius antinorii, Grant & Reid, p. 642; Grant, Nov. Zool. ix. p. 463 (1902).

a. ♂. Dabas, 26th December. No. 28.

PRIONOPS CRISTATUS. (Grant & Reid, p. 642.)

a. ♀. Bijo, 17th January. No. 100.

[Iris and ring round eye bright yellow; feet scarlet; bill dark horn-coloured.—E. D.]

EUROCEPHALUS RUEPPELLI. (Grant & Reid, p. 643.)

a. ♂. Billen, 31st January. No. 166.

b. ♂. Miessa, 24th July. No. 438.

BRADYORNIS CHOCOLATINUS. (Grant, p. 150.)

a. ♂. Ahouillet, 22nd June. No. 278.

[Iris cream-coloured; feet brown; bill grey.—E. D.]

BRADYORNIS PUMILUS. (Grant & Reid, p. 643.)

a. ♂. Quala, 12th March. No. 254.

PHYLLOSCOPUS RUFUS. (Grant & Reid, p. 644.)

a. ♂. Dedota, 15th March. No. 271.

SYLVIA CURRUCA. (Grant & Reid, p. 645.)

a. ♀. Seddimulka, 5th February. No. 177.

SYLVIELLA MICRURA. (Grant & Reid, p. 647.)

a. ♂. Bijo, 17th January. No. 97.

b. ♂. Mirti, 18th January. No. 129.

SYLVIELLA BRACHYURA. (Grant, p. 155.)

a. ♂. Hara, Lake Zwai, 5th March. No. 220.

EREMOMELA FLAVOCRISSALIS. (Grant & Reid, p. 648.)

a. ♀. Bijo, 17th January. No. 94.

CALAMONASTES SIMPLEX. (Grant & Reid, p. 649.)

a. ♀. Daira Aila, 24th January. No. 140.

[Iris chocolate; feet light horn-coloured; bill black.—E. D.]

BURNESIA GRACILIS. (Grant & Reid, p. 650.)

a–c. ♂ ♀. Zaila, 14th–16th December. Nos. 5, 6, 11.

CISTICOLA CISTICOLA. (Grant & Reid, p. 650.)

a. ♂. Doba, 26th January. No. 150.

CISTICOLA CINEREOLA. (Grant & Reid, p. 651.)

a. ♂. Daira Aila, 24th January. No. 139.
b. ♂. Oda, 27th January. No. 154.

CISTICOLA ROBUSTA. (Grant & Reid, p. 652.)

A male bird in the present collection has the wing 3·0 inches long, and confirms the differences already pointed out.

a. ♂. Manna Gasha, 29th June. No. 401.

CISTICOLA ERYTHROGENYS. (Grant & Reid, p. 652.)

a. ♂. Sulultra, 14th April. No. 291.

CISTICOLA CHINIANA. (Grant & Reid, p. 654.)

a. ♂. Manniballa, 14th July. No. 423.
b. ♀. Serba, Lake Zwai, 8th March. No. 245.

GEOCICHLA SIMENSIS. (Grant & Reid, p. 654.)

a. ♂. Sulultra, 14th April. No. 293.
b. ♂. Batadino, 24th June. No. 385.

TURDUS PELIOS. (Grant & Reid, p. 655.)

The Ethiopian Thrush appears to be rather a rare bird. Lord Lovat and Mr. Pease each met with it once, the former on the Blue Nile and the latter at Lake Zwai.

a. ♀. Harrar, 3rd January. No. 54.

[Iris deep hazel-brown; bill and feet yellowish horn-coloured.—E. D.]

MONTICOLA SAXATILIS. (Grant & Reid, p. 655.)

a. [♂.] Quala, 12th March. No. 252.

[Seldom met with, and only on the high ground.—E. D.]

MONTICOLA RUFOCINEREUS. (Grant & Reid, p. 656.)

a. ♂. Balawa, 30th December. No. 32.
b. ♀. Harrar, 1st January. No. 45.
c. ♂. Bogra, 14th March. No. 260.

RUTICILLA PHŒNICURA. (Grant, p. 164.)

a. ♂ imm. Harrar, 7th January. No. 44.

b. ♂. Bijo, 17th January. No. 92.

MYRMECOCICHLA MELANURA.

Myrmecocichla melanura (Temm.); Seebohm, Cat. B. Brit. Mus. v. p. 360 (1881); Hawker, Ibis, 1899, p. 72; Grant, List of B. Somaliland & Abyssinia, App. to Pease, iii. p. 176, 1902.

a. ♀. Doba, 26th January. No. 149.

SAXICOLA LEUCOMELA. (Grant & Reid, p. 657.)

a–c. ♂ ♀. Harrar, 1st–8th January. Nos. 42, 51, 67.

d. ♂. Bijo, 17th January. No. 93.

SAXICOLA DESERTI. (Grant & Reid, p. 658.)

a. ♀. Hensa, 20th December. No. 18.

[I only met with the Desert-Chat near the Somali coast.—E. D.]

SAXICOLA ISABELLINA. (Grant & Reid, p. 658.)

a. ♂. Dagu Delali, Harrar, 31st December. No. 38.

b. ♂. Harrar, 11th January. No. 71.

c. ♂. Harramaier, 15th January. No. 76.

d. ♂. Billen, 31st January. No. 165.

e. ♀. Duhome, 25th February. No. 209.

f. ♀. Hara, Lake Zwai, 7th March. No. 205.

[The Isabelline Chat was met with not only on the high plateaux, but also on the lower desert-ground near Lake Zwai.—E. D.]

PINAROCHROA SORDIDA. (Grant & Reid, p. 659.)

a. ♀. Adis Ababa, 28th March. No. 284.

[The only example of this Rock-Chat was caught in a rat-trap set in the Legation Gardens at Adis Ababa.—E. D.]

PRATINCOLA MAURA. (Grant & Reid, p. 659.)

a. ♂. Dagu Delali, 31st December. No. 37.

b. ♂. Duhome, 25th February. No. 208.

PRATINCOLA ALBOFASCIATA. (Grant & Reid, p. 660.)

a. ♂. Adis Ababa, 23rd March. No. 281.

Cossypha semirufa. (Grant & Reid, p. 660.)

a, b. ♂. Harrar, 8th January. Nos. 65, 66.

c. ♂. Batadino, 24th June. No. 384.

d, e. ♂ ♀. Zegi, Lake Tsana. 15th & 21st May. Nos. 330 & 341.

[I found these birds shy and difficult to approach; they rarely flew, and preferred to make their escape by slipping through the scrub from bush to bush, their presence being made known by their harsh rasping notes. The song is soft and melodious and uttered in a low key.—E. D.]

Thamnolæa albiscapulata. (Grant & Reid, p. 660.)

a, b. ♂ ♀. Jeffi Dunsa, 13th February. Nos. 202, 203.

c. ♀. Dedgen, 22nd April. No. 307.

[The Abyssinian White-shouldered Robin, like its ally, was met with on rocky ground.—E. D.]

Thamnolæa semirufa. (Grant, p. 169.)

a. ♀. Adis Ababa, 22nd March. No. 282.

[This extremely shy and cautious species was generally seen in rocky ground.—E. D.]

Erythropygia leucoptera. (Grant & Reid, p. 660.)

a. ♂. Mirti, 18th January. No. 127.

Argya rubiginosa. (Grant & Reid, p. 661.)

a. ♀. Mirti, 18th January. No. 124.

Crateropus smithi. (Grant & Reid, p. 662.)

a. ♂. Harrar, 11th January. No. 69.

Pycnonotus arsinoe. (Grant & Reid, p. 662.)

a. ♂. Bijo, 16th January. No. 88.

b. ♂. Hara, Lake Zwai, 7th March. No. 233.

c–e. ♂ ♀. Serba, Lake Zwai, 8th March. Nos. 239, 240, & 247.

[A very bold and conspicuous bird, met with in pairs throughout the greater part of our journey.—E. D.]

Batis orientalis. (Grant & Reid, p. 662.)

Of the four specimens before us two with a chestnut band across the breast are marked as males, and two with black bands as females. This determination, if correct, entirely upsets the generally accepted theory that the birds with black pectoral bands are the males, and those with chestnut bands the females. Other collections recently sent home seem to prove that Mr. Degen's determinations are correct, but the matter is certainly worth further investigation.

a, b. [♂ ♀.] Harrar, 3rd January. Nos. 48, 49.
c. [♂.] Bijo, 17th January. No. 96.
d. [♀.] Seddimulka, 5th February. No. 178.

ALSEONAX MURINUS. (Grant, p. 173.)

a, b. ♂ ad. et ♀ juv. Worrumbutchi, 27th June. Nos. 395, 396.

TERPSIPHONE CRISTATA. (Grant & Reid, p. 663.)

All these birds are in the transitional stage, with the back chestnut: three of them have the middle pair of tail-feathers white and the remainder chestnut; in the fourth bird the tail is white with the exception of one of the outer feathers, which is particoloured.

a. ♂ imm. Hoorsa, 19th January. No. 112.
b. ♂ imm. Billen, 31st January. No. 163.
c. ♂ imm. Serba, Lake Zwai, 8th March. No. 238.
d. ♂ imm. Addet, 8th May. No. 323.

PLATYSTIRA CYANEA.

Platystira cyanea P. L. S. Müll.; Sharpe, Cat. B. Brit. Mus. iv. p. 145 (1879).

As only a single female specimen of *Platystira* was procured, which scarcely differs from a large series of West-African birds, I have for the time being included it with the present species, though I think it quite possible that when males are procured it may prove to represent a distinct form.

This appears to be a very scarce bird, and was not met with by either the Blundell-Lovat or the Pease Expedition. Mr. Degen met with it only twice, frequenting the densely forested shores of Lake Tsana, where it appeared to keep to the higher trees.

a. ♀. Zegi, Lake Tsana, 17th May. No. 332.

Iris and feet light slate-coloured; bill black; eye-lappet scarlet.

COTILE RIPARIA.

Cotile riparia (Linn.); Sharpe & Wyatt, Monogr. Hirund. i. p. 43, pl. ix. (1887).

a. No data.

COTILE MINOR. (Grant & Reid, p. 664.)

a. No data.

COTILE SHELLEYI.

Cotile shelleyi Sharpe; Sharpe & Wyatt, Monogr. Hirund. i. p. 65 (1887).

a. ♂. Billen, 31st January. No. 164.

COTILE CINCTA.

Cotile cincta (Bodd.); Sharpe & Wyatt, Monogr. Hirund. i. p. 67 (1887).

a. ♀. Goubré, 9th May. No. 324.

HIRUNDO SMITHI. (Grant & Reid, p. 664.)

a. ♂. Amibarra, 3rd February. No. 174.

HIRUNDO SENEGALENSIS. (Grant, p. 177.)

a, b. ♂ ♀. Hara, Lake Zwai, 7th March. Nos. 229, 230.

PSALIDOPROCNE ANTINORII. (Grant & Reid, p. 665.)

a, b. ♀. Adis Ababa, 22nd & 26th March. Nos. 280, 283.

MESOPICUS SPODOCEPHALUS. (Grant & Reid, p. 665.)

a, b. ♂ ♀. Serba, Lake Zwai, 9th March. Nos. 248, 249.

c. ♂. Worrumbutchi, 27th June. No. 398.

CAMPOTHERA NUBICA. (Grant & Reid, p. 666.)

a. ♀. Hara, Lake Zwai, 6th March. No. 225.

b. ♀. Daira Aila, 24th January. No. 134.

DENDROPICUS ABYSSINICUS. (Grant, p. 305.)

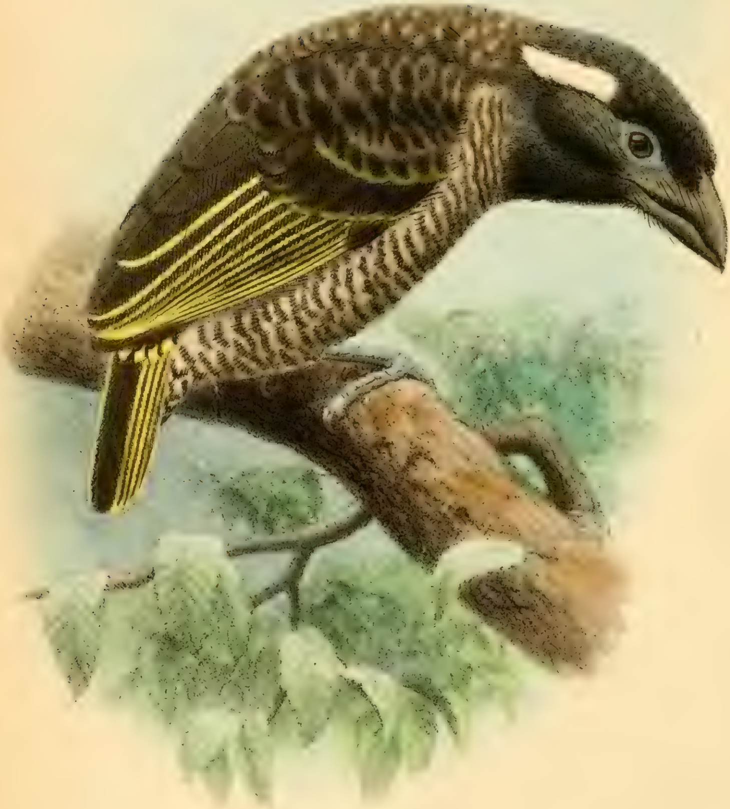
a. ♂. Ahouillet, 22nd June. No. 375.

DENDROPICUS HEMPRICHI. (Grant & Reid, p. 666.)

a. ♂. Doba. 26th January. No. 148.

THRIPIAS SCHOENSIS. (Grant & Reid, p. 666.)

a. ♀. Daira Aila, 24th January. No. 135.



H. Goodchild del. et lith.

Mintern Bros. imp.

MELANOBUCCO TSANÆ.

IYNX ÆQUATORIALIS. (Grant & Reid, p. 666.)
a. ♀. Addet, 8th May. No. 221.

INDICATOR INDICATOR. (Grant & Reid, p. 667.)
a. ♀. Hara, Lake Zwai, 5th March. No. 222.

MELANOBUCCO ABYSSINICUS. (Grant & Reid, p. 667.)
a. ♀. Miessa, 24th July. No. 437.
b–d. ♂ ♀. Gomar, 17th April. Nos. 296, 298, 299.
e. ♀. Zamea, 18th June. No. 365.

MELANOBUCCO TSANÆ. (Plate VI.)

Melanobucco tsanæ Grant, Bull. B. O. C. xiii. no. xciii. p. 29 (1902).

Adult female.—Differs from the female of *M. undatus* (Rüpp.) in having the top of the head black to the base of the bill.

In the female and young of *M. undatus* the red on the forehead is always well marked, and there can therefore be no question that Mr. Degen's bird represents a very distinct new species.

Total length ca. 5·5 inches, culmen from feathers on forehead 0·75, wing 3·1, tail 1·75, tarsus 0·75.

a. ♀. Zegi, Lake Tsana, 28th May. No. 353. [*Type of the species.*]

MELANOBUCCO UNDATUS. (Grant, p. 307.)
a. ♂ imm. Balawa, 30th December. No. 33.
b, c. ♀. Hiressa, 20th June. Nos. 369, 370.
d. ♀. Dedgen, 22nd April. No. 305.

MELANOBUCCO ÆQUATORIALIS. (Grant, p. 308.)
a–c. ♂ ♀. Bure, 10th June. Nos. 360–362.

TRICHOLÆMA MELANOCEPHALUM. (Grant & Reid, p. 668.)
a. ♂. Owaramulka, 6th February. No. 183.

TRICHOLÆMA DIADEMATUM. (Grant & Reid, p. 668.)
a. ♀. Owaramulka, 6th February. No. 185.

BARBATULA XANTHOSTICTA. (Grant, p. 308.)
a, b. ♂ ♀. Dodgit, 26th June. Nos. 390, 391.

TRACHYPHONUS MARGARITATUS. (Grant & Reid, p. 668.)

a. ♂. Balawa, 30th December. No. 36.

b. ♂. Lalliballa, 31st July. No. 449.

TURACUS LEUCOTIS. (Grant & Reid, p. 669.)

a, b. ♂ ♀. Unfras River, 10th May. Nos. 327, 328.

c–e. ♂ ♀. Zegi, Lake Tsana, 17th & 23rd May. Nos. 333, 334, 347.

GYMNOSCHIZORHIS PERSONATA. (Grant & Reid, p. 669.)

a. ♀. Harrar, 12th January. No. 72.

b. ♂. Bogra, 14th March. No. 261.

SCHIZORHIS LEUCOGASTER. (Grant & Reid, p. 669.)

a. ♂. Dabas, 26th December. No. 29.

b, c. ♂ ad. et ♀ head. Bijo, 17th January. No. 102.

CUCULUS SOLITARIUS.

Cuculus solitarius Steph.; Shelley, Cat. B. Brit. Mus. xix. p. 258 (1891).

a–e. ♂ ♀. Zegi, Lake Tsana, 21st–29th May. Nos. 342, 349, 350, 354, 355.

CHRYSOCOCCYX KLAASI.

Chrysococcyx klaasi Steph.; Shelley, Cat. B. Brit. Mus. xix. p. 283 (1891).

a. ♀. Zegi, Lake Tsana, 28th May. No. 352.

Iris nut-brown; bill and feet grey.

CENTROPUS SUPERCILIOSUS. (Grant & Reid, p. 670.)

a. ♀. Hoorsa, 19th January. No. 118.

CENTROPUS MONACHUS. (Grant, p. 310.)

a. ♀. Yensitcha, 23rd April. No. 311.

COLIUS LEUCOTIS. (Grant & Reid, p. 670.)

a. ♀. Harrar, 1st January. No. 41.

CAPRIMULGUS FOSSII. (Grant & Reid, p. 672.)

a, b. ♂. Billen, 30th & 31st January. Nos. 160, 161.

c, d. ♂ et ♂ juv. Tadejemulka, 8th February. No. 195.

e. ♀. Choba, 16th July. No. 428.

MELITTOPHAGUS SHARPII. (Grant & Reid, p. 672.)
a. ♂. Gulda, 27th December. No. 30.

MELITTOPHAGUS LAFRESNAYI. (Grant & Reid, p. 672.)
a. ♂. Balawa, 30th December. No. 35.
b. ♀. Quala, 13th March. No. 258.

MELITTOPHAGUS PUSILLUS. (Grant, p. 313.)
a, b. ♂ ♀. Zegi, Lake Tsana, 15th May. Nos. 322, 331.

MEROPS APIASTER. (Grant & Reid, p. 673.)
a. ♀. Buggali, 3rd March. No. 215.

MEROPS NUBICUS. (Grant & Reid, p. 673.)
a–c. ♂ ♀. Billen, 31st January. Nos. 168–170.
d. ♀. Hara, Lake Zwai, 5th March. No. 224.

MEROPS ALBICOLLIS.

Merops albicollis Vieill.; Sharpe, Cat. B. Brit. Mus. xvii. p. 76 (1892).

a. ♀. Tadejemulka, 17th July. No. 430.
b. ♂. Choba, 16th July. No. 427.

UPUPA EPOPS. (Grant & Reid, p. 673.)
a. ♀ Harrar, 8th January. No. 68.
b. ♂. Amibarra, 2nd February. No. 174.

IRRISOR SOMALIENSIS.

Irrisor somaliensis Grant, Ibis, 1902, p. 435, pl. x. fig. 2.

a. ♀. Bijo, 17th January. No. 99.
b. ♀. Ashoufi, 28th February. No. 212.

LOPHOCEROS ERYTHRORHYNCHUS. (Grant & Reid, p. 675.)
a. ♂. Mt. Asebot, 22nd July. No. 433.

BYCANISTES CRISTATUS. (Grant, p. 316.)
a, b. ♂ ♀. Din, 3rd May. Nos. 318, 319.
[♂. Iris light hazel. ♀. Iris dark hazel.—E. D.]

HAPALODERMA NARINA. (Grant & Reid, p. 676.)
a. ♀. Zegi, Lake Tsana, 29th May. No. 356.

CERYLE RUDIS. (Grant & Reid, p. 676.)
a, b. ♀. Owaramulka, 7th February. Nos. 190, 191.
c, d. ♂ ♀. Akaki R., 30th March. Nos. 285, 286.

CERYLE MAXIMA. (Grant & Reid, p. 677.)
a. ♂. Marmasa, 22nd January. No. 117.
b. . Owaramulka, 7th February. No. 192.

ALCEDO SEMITORQUATA. (Grant & Reid, p. 677.)
a. ♂. Hoorsa, 29th January. No. 103.
b. ♀. Addet, 8th May. No. 323.

CORYTHORNIS CYANOSTIGMA. (Grant & Reid, p. 677.)
a. ♂. Furrasso, 28th January. No. 157.
b. ♂. Owaramulka, 6th February. No. 186.

HALCYON SENEGALENSIS. (Grant & Reid, p. 677.)
a. ♂. Amibarra, 3rd February. No. 175.

HALCYON SEMICÆRULEA. (Grant & Reid, p. 677.)
a. ♂. Lalliballa, 31st July. No. 448.
b. ♂. Miessa, 24th July. No. 434.

HALCYON CHELICUTENSIS. (Grant & Reid, p. 678.)
a. ♀. Doba, 26th January. No. 147.

CORACIAS ABYSSINICUS. (Grant & Reid, p. 678.)
a. ♂. Daira Aila, 24th January. No. 131.

CORACIAS LORTI. (Grant & Reid, p. 679.)
a. Somali-Land. No data.

CORACIAS NÆVIUS. (Grant & Reid, p. 679.)
a. ♀. Harramaier, 15th January. No. 78.
b. ♀. Mirti, 18th January. No. 119.

AGAPORNIS TARANTÆ. (Grant & Reid, p. 680.)
a, b. ♂ ♀. Lake Ailan, 2nd March. No. 213.

ASIO ABYSSINICUS.

Otus abyssinicus Guérin, Rev. Zool. 1843, p. 321.

Asio abyssinicus Neumann, Bull. B. O. C. xii. no. xc. p. 73 (1902).

The female of this extremely rare Abyssinian Owl is a very important addition to the birds in the British Museum. The present example, that recently obtained by Mr. Neumann, and two specimens in the Vienna Museum collected by Heuglin are all that are known to exist in collections.

Like that of the following species, *B. dilloni*, it was procured by Mr. Bern at an elevation of about 8000 feet.

This species must not be confounded with *Bubo abyssinicus* Sharpe (*nec* Guérin) (*cf.* Ibis, 1898, p. 289), which is apparently a rufous phase of *B. cinerascens* (*cf.* Grant, Ibis, 1902, p. 438).

a. ♀. Jeffi Dunsa, 13th February. No. 205.

BUBO DILLONI.

Bubo dilloni Prév. & Des M., Rev. Zool. 1846, p. 242.

Bubo capensis dilloni, Neum. Bull. B. O. C. xii. no. xc. p. 74 (1902).

An example of this rare northern form of *B. capensis* was procured at Jeffi Dunsa at an elevation of 8000 feet, and agrees with the two specimens already in the Museum in colour and markings, the barring on the belly and flanks being of the same narrow type.

Mr. Neumann did not meet with this bird. As an instance of the extraordinary luck which some people have, we may mention that this Owl and the specimen of *A. abyssinicus* mentioned above were shot close together on the same day by Mr. Bern, who was at that time travelling with the caravan. He had gone out of camp with the intention of assisting Mr. Degen in procuring any birds that he might come across, and happened to find both these birds at rest on some rocky ledges overhanging a stream.

a. ♀. Jeffi Dunsa, 13th February. No. 204.

GLAUCIDIUM PERLATUM. (Grant & Reid, p. 680.)

a. ♀. Hirabon, 23rd December. No. 21.

CIRCUS ÆRUGINOSUS.

Circus æruginosus Grant, Ibis, 1901, p. 292.

a. ♀. Bijo, 16th January. No. 87.

MELIERAX POLYZONUS. (Grant & Reid, p. 682.)

a. ♂. Daira Aila, 24th January. No. 130.

MELIERAX GABAR. (Grant & Reid, p. 682.)

a. ♀. Buggali, 3rd March. No. 217.

ASTUR UNDULIVENTER.

Falco unduliventer Rüpp., Neue Wirb., p. 40, pl. 18. fig. 1 (1835).

Astur tachiro Sharpe, Cat. B. Brit. Mus. i. p. 99 (1874) [part. spec. *f*].

Scelospizias unduliventer Gurney, Ibis, 1875, p. 362; Salvad. Ann. Mus. Civ. Genov. xxi. p. 70 (1884), xxvi. p. 202 (1888).

Astur unduliventer Sharpe, Hand-l. B. i. p. 248 (1899).

The only example of this Goshawk in the British Museum Collection was an adult female from Ankober, Shoa, obtained by Sir W. C. Harris in December 1841. The differences between this species and South-African *A. tachiro* have already been pointed out (Gurney, Ibis, 1875, p. 362). The young female in spotted plumage procured by Mr. Degen may be at once distinguished from the young of *A. tachiro* of a similar age by having the thighs light reddish chestnut with faintly indicated darker cross-bars, whereas in the latter species the thighs are always white with wide distinct bars of brown.

The young bird obtained by Mr. Degen is therefore a valuable addition to the Collection.

Astur castanilius (Bonap.) [=*Astur macroscelides* Hartl.] from West Africa [*cf.* Sharpe, Hand-l. B. i. p. 248 (1899)] appears to be indistinguishable from *A. unduliventer*.

a. ♀ imm. Dembretcha, 26th April. No. 314.

ACCIPITER MINULLUS. (Grant & Reid, p. 681.)

a. ♂. Zegi, Lake Tsana, 23rd May. No. 343.

BUTEO AUGUR. (Grant, p. 320.)

a. ♀ ad. (in black plumage). Dodgit, 26th June. No. 394.

b. ♀ imm. Yai-yai, 18th April. No. 302.

c. ♂ ad. Yeddib, 25th April. No. 313.

HALIAËTUS VOCIFER. (Grant & Reid, p. 682.)

a. ad. S. Abyssinia. (No data.)

HELOTARSUS ECAUDATUS.

Helotarsus ecaudatus Grant, Ibis, 1901, p. 270.

a. ad. S. Abyssinia. (No data.)

LOPHOAËTUS OCCIPITALIS. (Grant, p. 321.)
a. ad. S. Abyssinia. (No data.)

POLIOHIERAX SEMITORQUATUS. (Grant & Reid, p. 683.)
a. ♀. Bijo, 17th January. No. 91.

CERCHNEIS TINNUNCULUS. (Grant & Reid, p. 683.)
a. ♂. Manda, 19th December. No. 15.
b. ♀. Harramaier, 6th January. No. 60.
c. ♀. Ibad, 6th May. No. 320.

HAGEDASHIA HAGEDASH. (Grant, p. 325.)
a. ♀. Zegi, Lake Tsana, 12th May. No. 329.

[Iris, inner circle dark brown, outer circle pure white; feet above of a vinous colour, below black; cere of the same vinous colour as the feet, remainder of bill black.—E. D.]

BOSTRYCHIA CARUNCULATA.

Bostrychia carunculata (Rüpp.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 18 (1898).

None of the collections received from Abyssinia of recent years have contained an example of this rare Wattled Ibis, which is a welcome addition to the Museum series.

a. ♀. Dedgen, 22nd April. No. 309.
[Iris white.—E. D.]

BUBULCUS LUCIDUS. (Grant & Reid, p. 687.)
a, b. ♂ ♀. Zegi, Lake Tsana, 24th May. Nos. 348, 351.
[Iris straw-coloured; feet fleshy pink; bill yellow.—E. D.]

PHYLLOPEZUS AFRICANUS. (Grant & Reid, p. 689.)
a. ♂. Zegi, Lake Tsana, 19th May. No. 340.

HIMANTOPUS HIMANTOPUS. (Grant & Reid, p. 691.)
a, b. ♂ ♀. Harramaier, 6th January. Nos. 61, 62.

OXYECHUS TRICOLLARIS. (Grant & Reid, p. 692.)
a. ♀. Jeffi Dunsa, 10th July. No. 410.
b, c. ♂ ♀. Hambissa, 14th February. Nos. 206, 207.

ÆGIALITIS ALEXANDRINA. (Grant & Reid, p. 692.)
a. ♂. Zaila, 13th December. No. 1.

TRINGOIDES HYPOLEUCUS. (Grant & Reid, p. 692.)
a. ♂. Zaila, 13th December. No. 2.

FULICA CRISTATA. (Grant & Reid, p. 695.)
a, b. ♀. Harramaier, 15th January. Nos. 79, 80.

ROUGETIUS ROUGETI. (Grant, p. 331.)
a. ♀. Dembretcha, 1st May. No. 317.

PODICIPES CAPENSIS. (Grant & Reid, p. 695.)
a, b. ♂ ♀. Harramaier, 16th January. Nos. 84, 85.

PODICIPES NIGRICOLLIS. (Grant, p. 331.)
a, b. ♀. Harramaier, 16th January. No. 86.

VINAGO WAALIA. (Grant & Reid, p. 695.)
a. Ad. Marmasa, 22nd January. No. 116.
b. ♂. Buggali, 3rd March. No. 216.
c. ♂. Hara, Lake Zwai, 7th March. No. 236.

COLUMBA GUINEA. (Grant & Reid, p. 696.)
a. ♀ juv. Dubra Marcos, 23rd April. No. 312.

TURTUR SENEGALENSIS. (Grant & Reid, p. 696.)
a. ♂. Harrar, 1st January. No. 46.

ŒNA CAPENSIS. (Grant & Reid, p. 696.)
a. ♂. Billen, 30th January. No. 159.
b. ♀. Amibarra, 2nd February. No. 173.

CHALCOPELIA AFRA. (Grant & Reid, p. 697.)

This specimen belongs to the form with green metallic wing-spots, recognised by Dr. Sharpe as *C. chalcospilus* Bonap. [*cf.* Bull. B. O. C. xii. p. 83 (1902)].

a. ♀. Marmasa, 21st January. No. 115.

XXI.—*On some rare and unfigured Eggs of Palæarctic Birds**.

By H. E. DRESSER, F.Z.S., M.B.O.U., &c.

(Plate VII.)

IN continuation of my former articles on the eggs of Palæarctic birds, I now beg to offer to the members of the B. O. U. some further notes on the same subject with accompanying illustrations. On this occasion, however, I propose to treat only of eggs of Eastern Palæarctic species.

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* For previous papers on the same subject, see 'Ibis,' 1901, p. 445; 1902, p. 177; 1903, pp. 88, 404; and 1904, p. 106.

(1) CHIMARRHORNIS LEUCOCEPHALUS. White-capped Redstart. (Pl. VII. figs. 1, 3.)

Chimarrhornis leucocephalus, Dresser, Man. Pal. B. p. 60.

The eggs of this Redstart are rare, and, not having been able to procure any for my own collection, I am indebted to Mr. Davidson for the loan of the two specimens now figured.

According to the late Mr. A. Anderson ('Nests and Eggs of Indian Birds,' 2nd ed. ii. p. 68), "the nest of this bird is very like that of the European Robin, and is composed outwardly of green moss, roots, and fibres, the egg-cavity being profusely lined with goat's hair. Its usual position is in a hollow of a bank on the side of a stream, the entrance being sheltered by overgrowing moss and ferns. The eggs are three in number." The two specimens taken by this gentleman were both obtained on the 20th of May from nests placed on a high precipitous moss-covered bank which overlooked a boiling rapid. The two eggs figured are from different clutches, both taken by Mr. Davidson himself and carefully identified. They shew great variation.

Mr. Davidson informs me that these eggs were "taken at Sonamerg, Kashmir, on the 1st and 4th of June, 1896; each clutch contained four eggs, but another clutch obtained at the same place contained only three. One nest was in a dead stump seven or eight feet from the ground, and I thought, before seeing the eggs, that it must be that of a Tit, but I saw the bird enter. Other nests were in large crevices in the rocks quite exposed, whereas two nests were in holes in the ground; one, which I dug out, was behind a rock, and contained young birds, and another was in a bank, but I was unable to cross the river to get at it, as I doubted being able to swim against the swift stream."

(2) PYCNONOTUS LEUCOTIS. White-eared Bulbul. (Pl. VII. figs. 4, 5.)

Pycnonotus leucotis Dresser, Man. Pal. B. p. 224.

The two eggs now figured were taken by Mr. Zarudny at

Podagi, in Baluchistan, on the 26th of April, 1901, and are in my own collection. According to Mr. Oates (' Nests and Eggs of Indian Birds,' 2nd ed. i. p. 177), the nest of this species is usually placed in dense and thorny bushes, at heights of from four to six feet from the ground. "The nests are usually composed of very fine dry twigs of some herbaceous plant, intermingled with vegetable fibre resembling tow, and scantily lined with very fine grass-roots. They are rather slender structures, shallow cups, measuring internally from $2\frac{1}{2}$ to 3 inches in diameter, and a little more than 1 inch in depth." Three appears to be the full complement of eggs, and the average size of twenty-three eggs was 0·83 (barely) by 0·64 inch.

(3) HYPSIPETES AMAUROTIS. Brown-eared Bulbul. (Pl. VII. figs. 6, 8.)

Hypsipetes amaurotis Dresser, Man. Pal. B. p. 226.

The two eggs figured are in my own collection; they were taken at Sagami, in Japan, on the 28th of May, 1898, the nest being placed in a cherry-tree about 20 feet from the ground. The nest of this Bulbul is constructed of twigs, moss, and coarse roots, lined with fine roots, the usual number of eggs being four.

(4) FALCO ALTAICUS. Altai Gyrfalcon. (Pl. VII. fig. 7.)

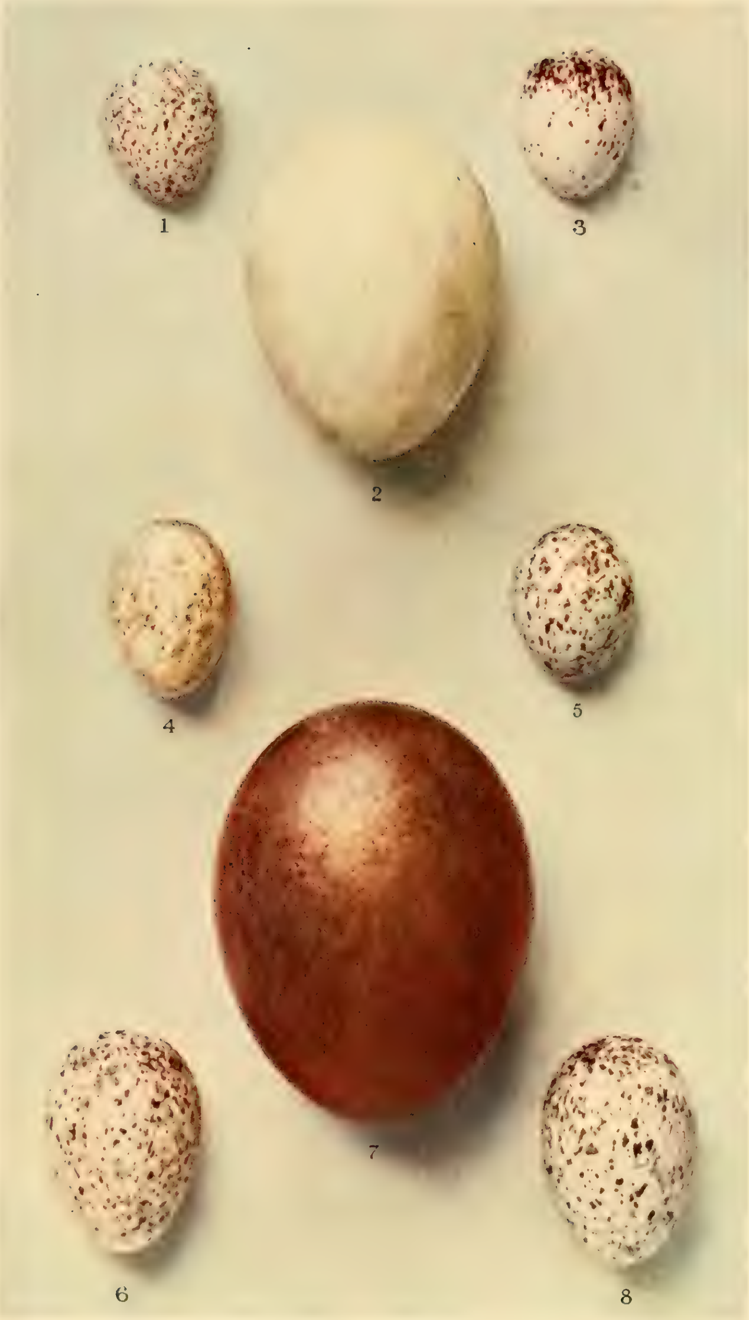
Falco altaicus Dresser, Man. Pal. B. p. 542.

So far as I can ascertain, the specimen now figured is the only authentic example known of the egg of this Falcon. It was received from Mr. Zarudny, who informed me that it was procured in the Altai Mountains along with the parent bird, but gave me no particulars respecting the nest. The egg measures 2·16 by 1·67 inch.

(5) PHASIANUS SCINTILLANS. (Pl. VII. fig. 2.)

Phasianus scintillans Dresser, Man. Pal. B. p. 667.

The egg now figured is one of two sent to me by Prof. Isao Ijima, of Tokio, who informed me that they were obtained at Kozugo, Japan, in May 1892. He assured me that they were carefully identified, but gave me no particulars respecting the nest.



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EGGS OF PALÆARCTIC BIRDS.

EXPLANATION OF PLATE VII.

Eggs of

Figs. 1, 3.	*Chimarrhornis leucocephalus*, p. 281.
„ 2.	*Phasianus scintillans*, p. 282.
„ 4, 5.	*Pycnonotus leucotis*, p. 281.
„ 6, 8.	*Hypsipetes amaurotis*, p. 282.
„ 7.	*Falco altaicus*, p. 282.

XXII.—*Notices of recent Ornithological Publications.*

[Continued from p. 163.]

28. *Anderson and Grinnell on the birds of N.W. California.*

[Birds of the Siskiyou Mountains, California: a Problem in Distribution. By Malcolm P. Anderson and Joseph Grinnell. Proc. Acad. Nat. Sci. Philad. 1903. 15 pp.]

After a preliminary description of the district, which occupies the north-western corner of Siskiyou county close to the Oregon boundary, a list of the species of birds, as determined by Mr. Grinnell, is given, with field-notes by Mr. Anderson. In the "summary" it is stated that the results shew that the Siskiyou mountains are evidently "on the narrow line of mergence between the humid coast-Fauna and the arid Sierran-Fauna. Representative species of these two areas occur in about equal numbers."

29. *'Aquila' for* 1903.

[Aquila. A Magyar Ornithologiai Központ Folyóirata. Periodical of Ornithology. Journal pour Ornithologie. Zeitschrift für Ornithologie. Redact. Otto Herman. Jahrg. X. 1903. Budapest.]

The tenth annual volume of 'Aquila,' the organ of the "Officium Hungaricum Ornithologicum," has made its appearance in good time, and we have to thank our kind friends at Budapest for an early copy. It is printed, as usual, in parallel columns of Magyar and German, and in excellent type, so that there is no difficulty in understanding its contents. Herr Otto Herman's *résumé* of the ten years' work of the Hungarian Ornithological "Centrale" deserves careful study, as does the same writer's full article on the former existence of the Bald Ibis (*Geronticus eremita*) in Hungary, as proved by tradition and proverbs. We quite agree with Herr Herman in considering the restoration of this bird to the European Fauna to be one of the most remarkable feats of recent ornithological work, and we shall be ever grateful to Messrs. Rothschild, Hartert, and Kleinschmidt for their researches. Herr Csörgey's account of his observations on bird-life during his winter residence at Spalato is also of much interest. Other contributions to this volume of 'Aquila' are well worthy of notice.

30. *Arbel on the* "Alethe."

[Note sur l'*Alethe*. Par M. le Dr. Arbel. Bull. Mus. d'Hist. Nat. i. p. 15 (1903).]

The author discourses on the "*Alethe*" or *Aleph*—a Bird-of-Prey imported from America and used in Falconry in the 17th Century. The available information on the subject is rather obscure, but the "*Alethe*" is supposed to have been the *Harpagus bidentatus* of South America.

31. '*Avicultural Magazine.*'

[Avicultural Magazine. The Journal of the Avicultural Society. New Series. Vol. I. No. 12; II. Nos. 1–3. 8vo. 1903–04. Price 1*s.* 6*d.* per number.]

These numbers are chiefly remarkable for a series of articles on the breeding of certain birds in captivity. The species in question are *Mesia argentauris* treated by Mr. R. Phillipps (coloured and plain plate); *Anthropoïdes virgo, Pavoncella pugnax,* and *Ampelis garrulus* by Mr. W. H. St. Quintin; *Leptoptila jamaicensis* by Miss R. Alderson (pl.); and *Polytelis melanura* by Mrs. Johnstone.

In addition to these papers Capt. Horsbrugh writes on birds observed in the Western Transvaal, Mr. W. H. Workman on those of Algeria, and the Rev. F. L. Blathwayt those inhabiting the lochs of West Sutherland. Dr. A. G. Butler discusses *Paroaria capitata* and *P. cervicalis,* the fact of Doves feeding on insects and worms, and the attempts to breed *Tympanistria*; Mr. R. Humphrys gives a coloured plate, with notes, of *Niltava sundara*; Mr. G. Renshaw an account of *Paradisea minor* at Amsterdam; Mr. F. Finn notes from the Zoological Gardens and on *Æx sponsa* (col. pl.); while the Editor provides articles on the Crystal Palace bird-shows, the Martineta Tinamou (Polyandry in birds), and *Pachycephala gutturalis* (col. pl.). The Report of the Council for 1902–3 will be found in vol. i. no. 12.

32. *Bianchi's Memoirs on the Birds of the Russian Empire.*

M. Valentin L. Bianchi, of the Academy of Sciences of St. Petersburg, has lately sent us separate copies of six papers written in Russian, relating to the birds of the Russian Empire. With the kind assistance of Mr. Dresser and Mr. Delmar Morgan we are able to give some account of these papers, which are, of course, of much importance to all the students of the Palæarctic Ornis.

(1) Ornitologischeskie materialui expeditzi dla naooschno-promislovago izsladomanya Murmana 1899–1901. By V. Bianchi. Ann. Mus. Zool. Acad. Imp. Sci. de St. Pétersbourg, vii. 1902. [Ornithological Materials of the Expedition for the Scientific-industrial Exploration of Murman in 1899–1901.]

This is chiefly a list of specimens obtained during the recent exploration of the Murman coast of the White Sea, north-east of the Kola Peninsula, accompanied by some prefatory notes. One adult specimen of *Corvus frugilegus* and one of *Cypselus apus* were obtained, the locality being claimed to be considerably beyond the range of these two species in Russia as previously known. (But see Pearson & Musters, 'Ibis,' 1903, p. 635.)

(2) K. Ornitofaun Mandchurie. By V. Bianchi. *Ibid.* [On the Ornithological Fauna of Manchuria.]

This paper contains particulars of a collection of birds made in Southern Manchuria, with dates and other details. Amongst the species enumerated are *Phasianus torquatus* from Talin, and *Turnix blanfordi* from Port Arthur.

(3) Obsor vidor roda *Acredula* Koch. By V. Bianchi. *Ibid.* [Review of the Genus *Acredula* Koch.]

This is a carefully drawn up table, with descriptions and specified ranges, of the various species of *Acredula* known to the author. We observe, however, that *A. sicula* of Whitaker (Bull. B. O. C. xi. p. 52, 1901) is not included, and that, on the other hand, *A. dorsalis* Madarász, which we believe to be the same as *A. caucasica,* is treated as a valid species.

(4) Treti ekzemplar *Syrnium wilkonskii* Menzb. By V. Bianchi. *Ibid.* [On a third Specimen of *Syrnium wilkonskii.*]

This note contains particulars of the occurrence of a specimen of this Owl at Maikop, in the Caucasus, on an affluent of the Kuban.

(5) Materialui dla Ornitofaunui Akmolinskoi Oblasti. By V. Bianchi. *Ibid.* [Materials for the Ornithological Fauna of the Akmolinsk Government.]

This paper contains a list of specimens of birds obtained in 1899 in the Akmolinsk Government north of the Syr Daria. About 88 species are enumerated.

(6) Obzor Form roda *Ithaginis* Wagler. By V. Bianchi. *Op. cit.* viii. 1903. [Review of the Genus *Ithaginis* Wagler.]

This is a thorough review of the species of the genus *Ithaginis,* with a synoptical table. Two new subspecies are described, viz., *Ithaginis sinensis michaëlis* and *I. berezowskii,* the former from the northern slope of the Nan-shan Mountains and the latter from the hill-districts of the basin of the Blue River. Of these two subspecies Latin descriptions are given.

33. *Bianchi on the Species of* Paridæ.

[Catalogue of the known Species of the Paridæ or the Family of Tits. By V. Bianchi. Ann. Mus. Zool. Acad. Imp. Sci. St. Pétersbourg, vii. 28 pp.]

This list contains only the Latin names of the various forms, a few references, and a statement of the distribution. M. Bianchi evidently believes in extreme subdivision, for he recognises 195 species of 24 genera in his subfamilies *Parinæ, Panurinæ,* and *Chamæinæ,* under the first of which he places the Australian *Xerophila* and *Sphenostoma* and the

New Zealand *Certhiparus*. As might, therefore, be anticipated, the species and subspecies of former authors are placed on an equal footing, while the forms to which trinomials are now applied are those barely to be recognised as distinct. A more misleading method can hardly be imagined, though we are aware that the author is only following other writers. Many well-known appellations are changed, scarcely for the better, and three new races are named, of which *Pardaliparus potaninæ* from Kan-su alone need be mentioned. But, though we cannot agree with the treatment of the family, the list is a careful piece of work, which will serve as a useful *résumé* of the subject. Two or three more forms have since been described.

34. *Bianchi on the Birds of Spitsbergen.*

[Zoologische Ergebnisse der russischen Expeditionen nach Spitzbergen. Ueber die in den Jahren 1899 1901 auf Spitzbergen gesammelten Vögel. By V. Bianchi. Ann. Mus. Zool. Acad. Imp. Sci. St. Pétersb. vii. 30 pp.]

We have here an account of the birds collected during the Russian Scientific Expeditions sent to Spitsbergen in 1899 and the following years for the purpose of measuring an arc of the horizon. Most of the zoological work was done by Dr. A. A. Bunge, who passed the whole winter of 1899–1900 in Spitsbergen; he contributes a most interesting diary of the departure of the last birds of each species in the autumn of 1899, and of their earliest arrival in the following spring. Other members of the expedition who took part in the collecting and observation of birds were Herr A. A. Bialynicki-Birula, Dr. A. Wolkowitsh, Herr Michailowski, and Herr Backlund. Twenty-four species are registered as having been met with, and good field-notes are added concerning them. Amongst them is the Redwing (*Turdus iliacus*), of which a single stray individual was captured alive in October 1899.

At the end of the paper is given a complete list of the birds that have as yet been recorded from Spitsbergen and Bear Island—forty-six in all, besides three which are doubtful. Twenty-two of these have been ascertained to nest in Spitsbergen, while three others probably do so.

35. *'Bird-Notes.'*

[Bird-Notes. Vol. ii. nos. 1–10. March 1903 to January 1904. London. Price 6*d*. each.]

We desire to encourage the study of Bird-life in all its aspects, and it is therefore with pleasure that we say a few words about 'Bird-Notes'—the Journal of the "Foreign Bird Club" and the "National British Bird Club," of the recent numbers of which we have lately received copies. The Journal appears to be of the same character as the 'Avicultural Magazine,' to which we have previously called attention, but is, perhaps, of a still more popular nature. However, there is no doubt much to be learned from the study of living birds in cages or in any other kind of captivity, and we welcome every sort of information that can be obtained from these sources. In some cases indeed it has already furnished valuable particulars as regards the food, moult, and breeding-habits of birds, which could hardly have been obtained without its aid. Besides the usual articles, intended mainly for keepers of birds in cages and aviaries, this Journal contains some good illustrations of recently introduced foreign species, with notes on them.

The "Foreign Bird Shows" at the Crystal Palace and elsewhere are duly described.

36. *Blomefield's 'Naturalist's Calendar.'*

[A Naturalist's Calendar, kept at Swaffham Bulbeck, Cambridgeshire, by Leonard Blomefield (formerly Jenyns). Edited by Francis Darwin, Fellow of Christ's College. Cambridge: at the University Press. 1903. Pp. xx, 84.]

'A Naturalist's Calendar' will always be of interest to those who wish to compare the times of appearance of birds with those of the opening of flowers, but it should carefully be borne in mind that the observations are those of a single individual in a limited area, within certain limits of time.

For such a work, however, the late Mr. Jenyns, the well-known brother-in-law of Professor Henslow, and Vicar of Swaffham Bulbeck, in Cambridgeshire, for nearly thirty years during the last century, was peculiarly well-fitted by his care and accuracy, qualities which doubtless obtained for him the offer, subsequently accepted by Charles Darwin, of the post of Naturalist on the 'Beagle' with Fitzroy. It is most suitable that the 'Calendar' should now be edited by one of Darwin's sons, the present Reader in Botany at Cambridge, and the more so as the chief interest of the work is botanical.

In this book the earliest and latest records for the years 1820–1831 are registered and the mean deduced; Mr. Blomefield, moreover, added notices for 1845, which the present editor has extended by including facts for the years 1846–1849 from notes in the author's annotated copy, now in the University Museum of Zoology at Cambridge.

37. *Chapman on the Economic Value of Birds.*

[State of New York Forest, Fish, and Game Commission. The Economic Value of Birds to the State. By Frank M. Chapman. 4to. Albany, 1903.]

The Protection of Birds is a subject to which, we are glad to say, the attention of many persons is now directed, both in America and in this country, while it may possibly prove one of the characteristic features of the twentieth century. A Division of Economic Ornithology and Mammalogy was created in the Department of Agriculture at Washington in 1886, to which welcome assistance has been given by the publications of the Biological Survey. The Forest, Fish, and Game Commission of New York State has begun to issue a regular Report, in which it calls the attention of every citizen to his duties towards the Birds and, conversely, to the various duties which they perform for him. It is desirable that the position of each species, with regard to its useful or injurious habits, should be ascertained, with the object of enabling the State both to protect its benefactors and to give the benefit of the doubt in some less certain cases.

In the present Report the subject is considered as it affects (1) the Forester, (2) the Fruit-grower, (3) the Farmer, and (4) the Citizen generally: statistics of the food-habits of many birds are given, shewing their value in exterminating noxious creatures and in spreading useful seeds; while suggestions are made for the more strict enforcement of the laws, the licensing of cats, and the suitable education of children in the love of birds.

A very strong case is made out for the Birds in the course of the argument. A list of other papers on this subject to which reference may be made is added. There are twelve coloured plates.

38. '*The Emu.*'

[The Emu. A Quarterly Magazine to popularise the Study and Protection of Native Birds. Official Organ of the Australasian Ornithologists' Union. Vol. iii. pt. 2, 1903. Price 4*s.*]

No specially striking contributions are to be found in this part of our contemporary, though Mr. F. M. Littler continues his observations on birds peculiar to Tasmania, Miss J. A. Fletcher her notes from Wilmot in the same island, and Mr. T. Carter his list of birds occurring in the North-West Cape Region, with further remarks on *Eremiornis carteri* and *Ptilotis carteri.* Mr. A. W. Milligan describes as new species *Gymnorhina longirostris,* from the Cane and Ashburton Rivers, N.W.A., and *Acanthiza pallida,* from Murchison, W.A., furnishing, moreover, notes on *Gymnorhina dorsalis* and the nests and eggs of *Acanthiza robustirostris, A. tenuirostris,* and *A. uropygialis.* Mr. H. E. Hill writes on the Birds of Brookton, W.A.; while in "Stray Feathers" we notice records of bones of the Emu from King Island and an egg of the same bird taken forty years ago in Tasmania, further details of close seasons in Australia, and an account of the nest and eggs of *Xerophila castaneiventris.* The plates (v.–vii.) contain figures of the heads of *Gymnorhina longirostris* and *G. tibicen*; of *Strix novæ-*

hollandiæ, with peculiarly adherent down; and a reproduction of a drawing of *Pygoscelis adeliæ*.

39. *Hartert on the Palæarctic Avifauna.*

[Die Vögel der paläarktischen Fauna. Systematische Uebersicht der in Europa, Nord-Asien und der Mittelmeerregionen vorkommenden Vögel. Von Ernst Hartert. Heft I. Berlin: Friedländer. 8vo. Pp. 112. November 1903.]

We have lately spoken in favourable terms of Mr. Dresser's 'Manual of Palæarctic Birds,' and praised his steadfast adherence to the old-fashioned binomial system of nomenclature. We now have to record the commencement of another work on the same subject, in which one of our leading authorities on Birds puts forward trinomialism as "the better way," and proposes to give nearly every species three names, or, perhaps, we may even say four, if, as seems to be the case, the authority is always to be added to the name itself. Mr. Hartert calls the Raven "*Corvus corax corax* L.," Mr. Dresser calls it "*Corvus corax*." In spite of Mr. Hartert's ingenious arguments in favour of the new plan, we prefer the simpler and shorter name. We do not, for a moment, say that local forms (for which by far the best and most convenient name is "subspecies") do not exist in Nature. Even Mr. Dresser recognises them in certain cases, such as that of the Dipper (*Cinclus*), of which, in his 'Manual,' ten subspecies are enumerated. But he does not give these ten subspecies the same rank as the full species; he subordinates them to the typical form *, and prints their names in smaller type. In Mr. Hartert's mode of treatment the subspecies are given exactly the same rank as the main species, which is only recognisable by the repetition of the second name, "*Corvus corax corax*." We must say that we much prefer the plan of adding

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* We observe that Mr. Dresser makes *Cinclus melanogaster* the typical form of the species. But here, we think, he is wrong. The earliest specific name assigned to the *Sturnus cinclus* of Linnæus was *aquaticus* of Bechstein; and, as we are not tautonymists, the typical Dipper should, in our opinion, be called *Cinclus aquaticus*, and the Scandinavian and other local forms should be treated as subspecies—*Cinclus aquaticus melanogaster*, &c.

"*typicus*" to the name of the type-species, when it is required, to this alliterative system, and to call it *Corvus corax typicus*. At times Mr. Hartert's plan results in such monstrosities as "*Pica pica pica*" and "*Oriolus oriolus oriolus*," and becomes almost ridiculous.

Another point in nomenclature on which it is not possible to follow Mr. Hartert is that he boldy disregards the rules of the Latin Grammar, and in spite of its precepts refuses to make his adjectives agree with his substantives in gender. Thus we have such names as *Pica pica hudsonius*, *Uragus sibirica lepidus*, and *Erythrospiza mongolicus*. Surely the ordinary rules of grammar should not be set aside in favour a newly-invented version of the "laws of priority"! We make such remarks with regret, and we are well aware that Mr. Hartert has able supporters with the same views; but we think it quite time that a protest should be made against such doctrines of "priority at any price," which are now being preached in America and in this country.

In the present (first) part of Mr. Hartert's work, which contains 112 pages, 184 species and subspecies are included. After an abbreviated synonymy (which, however, always contains a precise reference to the original descriptions), short characters, a summary of the range, an account of the breeding-habits, and other particulars are given. Of the 184 species and subspecies 143 have three names provided for them, and 41 species have two. A large number of the species reduced to trinomials are such as many other authors would consider full species—e. g., *Corvus corax tingitanus*, *Corvus cornix capellanus*, *Pica pica nuttalli*, *Nucifraga caryocatactes multipunctata*, and *Oriolus oriolus kundoo*. But it is an unquestionable fact that many representative species (which our author seems always inclined to lower into subspecies) have stronger distinctive characters than others which are universally granted specific rank. Consider the four species of Bell-birds, *Chasmorhynchus*, which are no doubt descendants of a common parent, yet are absolutely distinguished by salient characters of structure.

Thirteen new subspecies are characterized for the first time in this part of Mr. Hartert's work,—namely, *Corvus frugilegus tschusii* from Gilgit, *Cyanopica cyanus swinhoei* from China, *Nucifraga caryocatactes rothschildi* from Turkestan, *Garrulus glandarius rufitergum* from Great Britain and Ireland, *G. g. kleinschmidti* from South Spain, *G. g. whitakeri* from Morocco, *Sturnus vulgaris granti* from the Azores, *Eophona melanura migratoria* from S.E. Siberia, *Chloris sinica ussuriensis* from Eastern Manchuria, *Acanthis carduelis britannicus* from Great Britain and Ireland, *A. c. africanus* from Morocco, Algeria, and Tunis, *A. flavirostris stoliczkæ* from Gilgit, and *Erythrospiza githaginea amantum* from the Canaries. Among these are two well-known British birds—our Jay and Goldfinch. Can Mr. Hartert say that if British skins of these birds were mixed up with some of their Continental representatives, he would always be able to pick them out?

In respect of genera, we are pleased to say that Mr. Hartert is somewhat more conservative. He even unites, in some cases, genera which are usually regarded as distinct. Under "*Acanthis*," for example, he proposes to join together the Goldfinches, Siskins, Linnets, and Redpolls. We are not quite disposed to agree to this, and, at any rate, we do not see why *Acanthis* of Bechstein (1802) should be preferred to *Carduelis* of Schaef (1789). The Goldfinch should certainly bear the generic name *Carduelis*, and, in spite of what Dr. Stejneger may have argued (see 'Auk,' 1884, p. 145), *Acanthis* is merely a synonym of *Carduelis*.

But the main point of the book is that the author calls upon us virtually to give up the binomial system, which has been in universal use since its foundation by Linnæus, for a trinomial system. Here we most decidedly decline to follow him. In our opinion the better and all-sufficient scientific name for the Raven is simply "*Corvus corax*," not "*Corvus corax corax* L." ; and we shall continue to call it so. We shall, no doubt, be stigmatized by some of our friends as "fossils" and "antediluvians" ; but we believe that the great majority of sober-minded ornithologists, in spite of the efforts of the new school, will stick to the binomial system.

40. *Le Souëf's 'List of Birds' Eggs and Nests.'*

[Collection of Australian Birds' Eggs and Nests in the possession of D. Le Souëf. 4to. Melbourne.]

Mr. Le Souëf sends us a copy of a list of his Collection of Australian Birds' Eggs and Nests, which, we believe, is one of the best in the new Commonwealth. The scientific and English names are given in parallel columns; and a few remarks are added, referring mostly to the publications in which the nests and eggs have been described. The egg of the extinct Tasmanian Emu (*Dromæus diemenensis*), "taken about 1865 in N.E. Tasmania," is a great rarity. We are not aware that this name has appeared in print before.

41. *Lodge's 'Pictures of Bird-life.'*

[Pictures of Bird-life in Woodland, Meadow, Mountain, and Marsh. By R. B. Lodge. 4to. London: Bousfield & Co., 1903. Price 27*s.* 6*d.* net.]

In this volume Mr. Lodge gives a most pleasing account of his ornithological experiences in various parts of Britain and Western Europe. As might be expected from so good a photographer, his three chapters on that art as practised by naturalists are admirable; and therein he strongly decries indiscriminate slaughter of specimens and taking of eggs. The copious illustrations are excellently clear and life-like, though the eight coloured plates hardly please us so much as the others.

With regard to the letterpress, the chapters on Bird-life in the Dutch Marshes, the Spanish Marisma, and the Fjords and Forests of Denmark leave little to be desired; while they afford vivid pictures of those regions and their feathered inhabitants, and give evidence throughout of the careful nature of the author's observations. The chapter on Bird-life in a suburban parish might, however, have well been omitted as more suitable for tyros than for experts, the information being commonplace, and several of the facts, though doubtless true in individual instances, certainly not of universal application. For instance: the Nuthatch is not shy at all times of year; birds which nest in holes do not almost invariably lay white eggs; the Stock-Dove does not always nest in hollow trees, nor the Nightingale on the ground. Again, in the interesting and generally accurate accounts of the Lincolnshire Mudflats, the Birds of the Farne Islands, the Norfolk Broads, and the Derbyshire Dales, a few misleading statements occur, such as that of the Lesser Tern formerly breeding on the Farne Islands (instead of the neighbouring Ross Links); while the Little Bustard is said (p. 207), doubtless by a slip of the pen, to have bred in Britain.

Among many beautiful illustrations, we may notice the vignette of the "Stork klappering" (p. 251) as an instance of the great advantage of photography to ornithologists.

42. *Loudon on the Crested Larks of Turkestan.*

[Zur Kenntniss der west-turkestanischen Repräsentanten der Gattung *Galerida*. Von Harold Baron Loudon. Ornithol. Jahrb. xiv. pp. 171–174.]

Baron Loudon writes on the Crested Larks of Turkestan, among which he recognises three forms—*Galerida magna* (Hume), *G. cristata iwanowi*, subsp. nov., and *G. c. magdæ*, subsp. nov. He describes the characters and ranges of these three birds.

43. *Nelson on new Birds from Mexico.*

[Descriptions of new Birds from Southern Mexico. By E. W. Nelson. Pr. Biol. Soc. Washington, xvi. p. 151 (1903).]

The "new birds," all from various localities in South-western Mexico, are named *Geotrygon albifacies rubida*, *Dactylortyx thoracicus sharpei*, *Syrnium occidentale lucidum*, *Xiphocolaptes emigrans omiltemensis*, *Cyanolyca mirabilis*, *Aphelocoma guerrerensis*, *Vireolanius melitophrys goldmani*, *Geothlypis chapalensis*, *Thryophilus sinaloa russeus*, *Troglodytes brunneicollis nitidus*, *Henicorhina leucophrys festiva*, *Hemiura leucogastra musica*, and *Sialia mexicana australis*.

44. *Oberholser on the American Great Horned Owls.*

[A Revision of the American Great Horned Owls. By Harry C. Oberholser. Proc. U.S. Nat. Mus. xxvii. pp. 177–192 (1904).]

Mr. Oberholser adopts Mr. Stone's "revolutionary" view (see 'Auk,' xx. p. 272) as to *Asio* being the "proper name" of the Great Horned Owls. Our old friend "*Bubo virginianus*" consequently disappears in favour of "*Asio magellanicus*," which is now divided into 17 subspecies, spread over the American continent. Of these, *A. m. mesembrinus* from Costa Rica, *A. m. melanurus* from Mexico, *A. m. icelus* from California, *A. m. lagophonus* from Washington and N. Oregon, *A. m. heterocnemis* from Labrador, and *A. m. algistus* from Alaska are now described as new subspecies.

45. *Oberholser on the Wrens of the Genus* Troglodytes.

[A Review of the Wrens of the Genus *Troglodytes*. By Harry C. Oberholser. Proc. U.S. Nat. Mus. xxvii. pp. 197-210. Washington, 1904.]

The genus called *Troglodytes* in the present paper (as in the American 'Check-list') is not, it must be recollected, the exact group to which our well-known European Wren belongs, but a purely Neogæan group, of which the type is *Troglodytes aëdon*, the "House-Wren" of N. America. The 'Check-list' uses "*Anorthura*" as the generic name for *Troglodytes hyemalis*, which is a close ally of our European Wren: but the fact is that the two groups are barely separable generically, and, in our opinion, may be united under "*Troglodytes*."*

According to Mr. Oberholser the American group of Wrens allied to *T. aëdon*, to which he restricts the generic name *Troglodytes*, contains about 37 species and subspecies, which range all over the New World down to Cape Horn (*T. hornensis*). Mr. Oberholser assigns, probably quite correctly, several West-Indian species that have hitherto been placed in *Thryothorus* to the present genus. The widely-spread *T. musculus* is subdivided into 15 subspecies, of which the following three are described as new:—*T. musculus acosmus* from Chili, *T. m. atopus* from Santa Martha, and *T. m. enochrus* from Peru. *Troglodytes browni* (Bangs, Pr. N.E. Zool. Cl. iii. p. 53, 1892) is elevated to generic rank under the new name *Thryorchilus*. It is stated to have only 10 tail-feathers (?).

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* *Cf.* remarks, Ibis, 1902, p. 527.

46. *Oberholser on a new Swallow.*

[A new Cliff-Swallow from Texas. By Harry C. Oberholser. Pr. Biol. Soc. Washington, xvi. p. 15 (1903).]

Petrochelidon lunifrons tachina, from S.W. Texas, is described as a new subspecies.

47. *Oberholser on a new Greenlet.*

[Description of a new *Vireo*. By Harry C. Oberholser. Pr. Biol. Soc. Washington, xvi. p. 17 (1903).]

Vireo belli medius is intermediate between *V. belli belli* and *V. belli pusillus*.

48. *Oberholser on a new Marsh-Wren.*

[Description of a new *Telmatodytes*. By Harry C. Oberholser. Pr. Biol. Soc. Washington, xvi. p. 149 (1903).]

The new subspecies, proposed to be called *Telmatodytes palustris thryophilus*, is from Texas.

49. *Oberholser on the North-American* Astragalini.

[The North-American Forms of *Astragalinus psaltria* (Say). By Harry C. Oberholser. Pr. Biol. Soc. Washington, xvi. p. 113 (1903).]

The author maintains that there are but two distinguishable subspecies of *Astragalinus psaltria* in North America—*A. p. p.* from Mexico, Texas, New Mexico, and Colorado, and *A. p. hesperophilus* (!) from the South-western U.S. and N.W. Mexico. He rejects three of Mr. Ridgway's recently proposed subspecies of *Astragalinus*, and says that they all breed together in Colorado.

50. *Oustalet and Grandidier on a new Rail.*

[Description d'une nouvelle espèce d'Oiseau, type d'un genre nouveau, provenant de Madagascar. Par MM. E. Oustalet et G. Grandidier. Bull. Mus. d'Hist. Nat. 1903, no. 1, p. 10 (1903).]

This curious bird, at first supposed to be "an aberrant Passerine form possessing some analogies with *Brachy-*

pteracias," has been ultimately referred, not without some doubt, to the Rallidæ, under the name of *Monias benschi*. The specimen was obtained in the environs of Vorendreo, 25 kil. east of Tuléar, in Madagascar.

51. *Parrot on his Ornithological Excursion to Egypt.*

[Ornithologische Wahrnehmungen auf einer Fahrt nach Aegypten. Von Dr. Parrot. Jahresb. Ornithol. Ver. München, iii. pp. 89–138 (1903).]

Dr. Parrot gives a full and lively account of a three weeks' tour in Egypt in April and May 1902, and shews us that an active and intelligent observer may do much even in that short space of time. After describing the numerous occurrences of migrating birds observed during the passage to Port Said, he relates his ornithological experiences at Cairo and its neighbourhood, and his return home by Alexandria and Trieste. His field-notes, arranged in classified order, relate to upwards of 60 species, amongst which he is so fortunate as to be able to include observations on *Merops viridissimus*, *Pycnonotus arsinoe*, *Hypolais pallida*, and other attractive species.

52. *Perkins on the Birds of the Hawaiian Islands.*

[Fauna Hawaiiensis; or the Zoology of the Sandwich (Hawaiian) Isles. Edited by David Sharp, M.B., F.R.S.—Vol. I. Pt. iv. Vertebrata. By R. C. L. Perkins. Cambridge, 1903.]

Although we may not quite agree with all the views put forward by Mr. Perkins, every ornithologist will allow that he has included in the present memoir a very valuable series of notes on the Hawaiian avifauna.

After some good introductory remarks, in which the peculiar Passerines of the Hawaiian group are specially dealt with, the author goes through the whole Avifauna *seriatim*, beginning with the Passeres and ending with the Petrels and Gulls, and gives us the results of his valuable experiences during the many years which he has devoted to its study. The distribution of the representative species in the various islands of the Archipelago is specially attended to; and the mode of nesting and the eggs, where known, are carefully described. The Drepanididæ, certainly the most singular and attractive of all the Hawaiian groups, are discussed at length; and though we may not entirely adhere to the author's theories as to their origin and descent, this part of the memoir is well worthy of serious study.

On the whole, we consider that Mr. Perkins deserves great credit for the present paper, which affords evident proofs of his industry and acuteness. Considering the enormous number of other forms of animal life to which he had to devote his time, it is wonderful that he was able to devote so much attention to the Class of Birds.

53. *Pichot on Birds used in Sport.*

[Les Oiseaux de Sport par Pierre-Amédée Pichot. 4to. Paris, 1903. 206 pp.]

This is a pleasant and instructive book, enriched by no less than 51 plates and smaller illustrations. After a few pages of general information, the author enters upon his main subject with accounts of Falconry and Falconers, Cormorant-fishing, Cock-fighting, Pigeon-flying, and Pigeon-shooting. He next describes in greater detail the Falconry establishments at Beauchamp (M. Barrachin) and at Berck (M. Belvalette), and follows with sections on professional and other renowned falconers—Col. Thornton in France under the Consulate, Lord Lilford, Major Fisher, Mr. T. J. Mann, the Hon. Cecil Duncombe, and the Rev. W. Willimott. Succeeding chapters are entitled "Les Chasses d'un Emir au xii^{e} siècle," "Les Chasses au Levrier et au Faucon chez les Kirghises," and "Les Animaux historiques." An appendix treats of Falconry at the Paris Exhibition of 1900.

Readers of 'The Ibis' will appreciate the great esteem in which our late President was held in France, the account of Lord Lilford filling twelve pages (with a portrait).

54. *Reichenow's 'Birds of Africa.'*

[Die Vögel Afrikas von Ant. Reichenow. Zweiter Band, Zweite Halfte. Neudamm: J. Neumann, 1903.]

The issue of the second half of the second volume of

Prof. Reichenow's important undertaking, which took place in June last year, claims our attention, though there is little more to be said of the system of the work as a whole than has been stated in our previous notices ('Ibis,' 1901, p. 732, and 1903, p. 129).

After concluding the account of the African Swifts, which are here called "Macropterygidæ," though the typical genus is termed *Apus* (*Cypselus*), the grand array of Passeres is commenced with the Pittidæ and the Hirundinidæ—of which 49 species are included in the African List. We are sorry to see the Sand-Martins designated "*Riparia*" and the House-Martins "*Delichon*," as we do not allow the necessity for such inconvenient changes in nomenclature. The Muscicapidæ are placed next. This is a very numerous family in Africa, and upwards of 100 species are recognised. The Campephagidæ follow with 14 and the Laniidæ with 115 species. Here, again, "*Pomatorhynchus*" is preferred to the well-known name "*Telephonus*," and "*Coracina*" is used in place of *Graucalus*—two objectionable alterations*. The Corvidæ, Dicruridæ, Artamidæ, and Sturnidæ come next in order and conclude the series in this volume, which is terminated by a set of useful maps with the localities plainly marked and by 10 coloured plates. In this and in the preceding volume together 1297 species and subspecies have been treated, the subspecies being recognisable only by their three names.

55. *Report of the Ornithological Union of Munich.*

[Dritte Jahresbericht des Ornithologischen Vereins München (E. V.) für 1901 und 1902; herausgegeben von Dr. Med. C. Parrot. Munich, 1902. 1 vol. 8vo. 392 pp.]

We have only lately become acquainted with the existence of an Ornithologists' Union at Munich, the third Report of which is now before us, two former volumes having been issued for 1897–8 and 1899–1900. The first portion of it contains the minutes of the meetings of the Society, together with a list of its members. The appended memoirs and papers all relate to Bavarian ornithology, with the exception of Dr. Parrot's narrative of his recent expedition to Egypt and his account of its results, which we have noticed under that author's name. He appears to be one of the most active members of the Union, to which we wish every success.

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* The type of Vieillot's genus *Coracina* is the "*Col-nud*" of Buffon, so that this term is merely a useless synonym of *Gymnoderus*.

56. *Ridgway on new North-American Birds.*

[(1) Descriptions of new Genera, Species, and Subspecies of American Birds. By Robert Ridgway. Pr. Biol. Soc. Washington, xvi. p. 105 (1903).

(2) Diagnosis of some new Forms of American Birds. By Robert Ridgway. *T. c.* p. 167.]

These "new forms" are to be included in the third volume of Mr. Ridgway's 'Birds of North and Middle America' (see 'Ibis,' 1903, p. 261), but as the issue of that volume has been unavoidably delayed, it has been thought better to publish the descriptions at once:—*Budytes flavus alascensis* (Western Alaska), four new genera of Swallows—*Alopochelidon* (type *Hirundo fucata*), *Orochelidon* (type *Petrochelidon murina*), *Diplochelidon* (type *Hirundo melanoleuca*), and *Lamprochelidon* (type *Hirundo euchrysea*),—*Stelgidopteryx salvini* (Mexico and Central America), *Vireosylvia gilva brewsteri* (N.W. Mexico), *V. josephæ costaricensis* (Costa Rica), *Vireo huttoni cognatus* (Lower California), *V. huttoni mexicanus* (South Mexico), *V. belli arizonæ* (Arizona), *Pachysylvia ochraceiceps pallidipectus* (S. Honduras to Chiriqui), *Vireolanius pulchellus viridiceps* (Veragua), *Lanius ludovicianus mearnsi* (San Clemente Island), *Aphelocoma unicolor cœlestis* (Guatemala), *Bæolophus inornatus restrictus* (California), *B. i. murinus* (Puget Sound), *Psaltriparus minimus saturatus* (Puget Sound), *Chamæa fasciata rufula* (Central California), *Polioptila nelsoni* (S.E. Mexico), *P. bairdi* (W. Nicaragua and Costa Rica), *P. superciliaris magna* (Costa Rica), *Telmatodytes palustris iliacus* (Mississippi Valley), and *Heleodytes nelsoni* (Mexico).

In a second paper Mr. Ridgway characterizes nine "new forms" in addition to those described in the previous paper.

These are *Thryophilus pleurostictus ravus* (Nicaragua), *T. modestus pullus* (Chiapas), *Salpinctes obsoletus notius* (S. Mexico), *Henicorhina leucophrys castanea* (E. Guatemala), *H. l. berlepschi* (W. Ecuador), *H. hilaris bangsi* (Colombia), *Cistothorus polyglottus lucidus* (Panama), *Salpinctes obsoletus exsul* (San Benedicte I.), and *Salpinctes maculatus* (N. Guatemala).

57. *Riley on a new Quail-Dove.*

[Description of a new Quail-Dove from the West Indies. By J. H. Riley. Pr. Biol. Soc. Washington, xvi. p. 13 (1903).]

Geotrygon sabæ from Saba Island, W.I., allied to *G. mystacea*, is described as distinct.

58. *Rothschild and Hartert on Papuan Birds.*

[Notes on Papuan Birds. By W. Rothschild and E. Hartert. Nov. Zool. vol. x. pp. 435–480.]

The authors continue (see above, p. 160) their valuable notes on the specimens of Papuan birds in the Tring Museum, to which an addition has recently been made by the receipt of a new collection formed by Messrs. Meek and Eichhorn at Avera on the Aroa River, north of Redscar Bay, British New Guinea.

The Meliphagidæ, an abundant family in New Guinea, are first reviewed, and the following forms are described as new:—*Ptilotis aruensis sharpei*, *P. chrysotis saturatior*, *P. chrysotis madaraszi*, and *P. finschi*. *Eafa maculata* is a new genus and species, allied to *Ptilotis*, but with a shorter and wider bill. Altogether 52 species of Meliphagidæ are mentioned. Eleven species of *Zosterops* from the Papuan Subregion are next enumerated. The Papuan Hirundinidæ are only 3. Of the Papuan Muscicapidæ 92 species are commented upon, and *Micrœca griseiceps occidentalis*, *Gerygone neglecta dubaryi*, and *Todopsis cyanocephalus dohertii* are characterized as new. The article concludes with some additional remarks on certain Dicæidæ, Laniidæ, and Timeliidæ, three families which have been already treated.

59. *Shufeldt on the Osteology of the Limicolæ.*

[Osteology of the Limicolæ. By Dr. R. W. Shufeldt. Ann. Carnegie Mus. vol. ii. pp. 15–70, pl., cuts.]

Dr. Shufeldt here gives us a very full account of the Osteology of the Limicolæ, chiefly derived from the study of *Vanellus*, *Charadrius*, *Ægialitis*, *Numenius*, *Phalaropus*, *Tringa*, and its nearest allies, *Scolopax*, *Gallinago*, *Aphriza*, and the Parridæ. In different directions he traces affinities to the Laridæ, Ibididæ, Eurypygidæ, Rallidæ, and Tubinares, while his ideas of the mutual relationships of the respective forms will be seen at a glance from his table.

60. *Snodgrass and Heller on Birds from the Galapagos.*

[Papers from the Hopkins-Stanford Galapagos Expedition, 1898–1899. XVI. Birds. By R. E. Snodgrass and E. Heller. Proc. Washington Acad. of Sc. v. pp. 231–372 (1904).]

This is an elaborate essay on the birds collected in the various islands of the Galapagan Archipelago by the Naturalists of the "Hopkins-Stanford Expedition" of 1898–9, and now deposited in the Museum of the Leland-Stanford-Junior University at Palo Alto, California. The species of which specimens have been obtained in the Galapagos by other collectors (but not on this occasion) are inserted in their places, so that we have here a complete account of the peculiar Avifauna up to date, which may be compared with those of Mr. Ridgway (Pr. U.S. Nat. Mus. vol. xix., 1896) and of Messrs. Rothschild and Hartert (Nov. Zool. vol. vi., 1899).

A few lines of Introduction inform us that the arrangement employed is that of the American Ornithologists' Union, and begins, therefore, with the lowest forms. We observe that even the habitual grammatical errors of that List are faithfully followed. But there is one important amelioration introduced. The "subspecies" are not given *quite* the same rank as the "species," but are designated by letters, *a*, *b*, *c*, &c., added to the number borne by the species. Thus under species "63. *Geospiza fortis*" we find ranged 63 *a*. *Geospiza fortis fortis*, 63 *b*. *G. f. fratercula*, &c.

Eighty species of birds are assigned to the Galapagan Avifauna in this memoir, besides some 40 subspecies. It will be observed that the original idea of the term "subspecies" being restricted to cases in which intermediate forms occur has here been quite abandoned. There are, of course, no intermediate forms between species confined to different islands, but they are none the less treated as "subspecies."

The field-notes are of great interest, especially those relating to the Geospizine Finches, which appear to have been very carefully studied. They are all placed by the authors in one genus (*Geospiza*), with 18 species and numerous subspecies. *Certhidea*, referred to the Mniotiltidæ, has 2 species, which are divided into 8 subspecies.

It must not be supposed, however, from what has been said that we do not approve of this piece of work. On the contrary, it is a valuable contribution to a most engaging subject—that of the origin of insular Avifaunas. Next to the Hawaiian Archipelago, the Galapagan group perhaps presents a more favourable opportunity for the discussion of this most interesting question than any other part of the earth's surface. We are therefore grateful to Messrs. Snodgrass and Heller for the pains which they have taken in working out this important collection.

61. *Stejneger on* Oreomyza.

[A new Name for the Hawaiian Bird-genus *Oreomyza*. By Leonhard Stejneger. Pr. Biol. Soc. Washington, xvi. p. 11 (1903).]

Oreomystis is proposed, *Oreomyza* being already occupied in entomology.

XXIII.—*Letters, Extracts, Notices, and Obituary.*

We have received the following letters addressed to "The Editors of 'The Ibis'":—

Sirs,—On a recent passage from New York to England I was struck by observing Snow-Buntings (*Plectrophanes nivalis*) on migration in mid-Atlantic. I was previously under the impression that this species migrated practically North and South. That numbers of them apparently cross the

Atlantic from West to East was certainly new to me, and the evidence may be worth recording. The birds were first met with on October 11th (lat. 45° N., long. 15° W.). They kept passing us on the 12th, 13th, and 14th (lat. 50° N., long. 15° W.). They were not in large numbers, but I saw from a dozen to a score, singly and in twos and threes, during each of these four days. It was difficult to observe their original direction, as they sighted the ship before we saw them and altered their course towards it. On leaving the vessel the majority held on due east. With half the Atlantic between them and land they were travelling with a buoyant undulating flight and shewing no signs of fatigue. Only one or two settled on board, and those only for a minute or two. They passed and circled round the big liner (running 18 or 19 miles an hour) as if she were standing still. As a guess I should say that they were travelling well over 60 miles an hour. Now the length of time for which a Snow-Bunting can sustain flight with no possibility of feeding must necessarily be very limited. From what I saw I can only conclude that *Plectrophanes nivalis* is quite capable of crossing the Atlantic Ocean in one flight, and probably does not require 48 hours for the journey.

I saw no other land-birds during the voyage.

Yours &c.,
A. L. Butler
(*Director of Game-Preservation,
Soudan Government*).

Khartoum, Soudan,
Dec. 21st, 1903.

Sirs,—A few weeks ago I acquired at a small bird-dealer's shop a living Chaffinch (*Fringilla cœlebs*) which had been caught in a wild state in this country in the autumn of 1902. The bird is a male, in beautiful condition, and may be described as follows:—Head and nearly the whole of the upper parts pale canary-yellow; mantle bright yellow; lower part of back yellow with a greenish tinge. A few of the primaries on both sides and a few of the smaller feathers were of the usual colour. Tail yellow, with two of the outer feathers on each side dark. Underside yellow mixed with the usual wine-colour. Sides almost wholly yellow.

Bill, except the tip, which is black, and legs flesh-coloured. Eyes brown.

On the same occasion I got a female Chaffinch which is of a light havana or buff-colour all over, with the usual light markings.

Both are fine birds, but the male is really a very handsome object.

Yours &c.,
F. E. Blaauw.

Gooilust, 's Graveland,
Hilversum, Holland,
January 12, 1904.

Sirs,—In the notice of Herr C. E. Hellmayr's recent synopsis of the Paridæ, Sittidæ, and Certhiidæ (*supra*, p. 154) it is asked " . . . . how many Members of the B. O. U. could distinguish *C*[*erthia*] *brachydactyla* from *C. familiaris* or *C. britannica* . . . . from either of them ? "

I do not think that the difficulty is so great as this question implies, and, as I have an adequate series of each of the three forms before me, perhaps I may be allowed to indicate the characters by which I find myself able to separate them with little difficulty. To facilitate comparison I have arranged the characters in tabular form :—

(a) *C. familiaris familiaris.*	(b) *C. familiaris britannica.*	(c) *C. brachydactyla.*
i. Whole dorsal aspect more hoary than in *b* or *c*, due to the enlargement and paler coloration of the light area of the separate feathers.	Upper surface darker and more rufous, light portion of feathers buff.	Upper surface distinctly darker than *a* and less suffused with rufous than *b*, light area of feathers grey.
ii. Forehead distinctly spotted like crown.	Forehead spotted as in *a*.	Forehead unspotted or indistinctly spotted.
iii. No dark spot on under-wing.	No dark spot on under-wing.	A dark mark on the under wing-coverts just in front of 1st primary.
iv. Rump lighter than in *b* or *c*.	Rump darker and more richly coloured.	Rump darker and more richly coloured.
v. Lower abdomen and flanks hardly tinged with rust-colour.	Flanks rust-coloured.	Flanks rust-coloured.
vi. Bill shorter than in *c*.	Bill shorter than in *c*.	Bill averaging distinctly longer in both sexes than in *a* or *b*.

I freely admit that one or more of these characters might break down if applied to particular individuals. These forms of *Certhia* well illustrate a remark in Dr. J. A. Allen's paper "So-called Species and Subspecies" ('Science,' N.S., xvi. pp. 383–386; 5th September, 1902):—"They present to the eye differences that are sufficiently impressive, but which, owing to the imperfection of descriptive terms, cannot be adequately expressed in keys or diagnoses."

Yours &c.,
W. Ruskin Butterfield.

4 Stanhope Place,
St. Leonard's-on-Sea,
30th January, 1904.

Sirs,—A short time ago Mr. Clement J. Carroll sent me for identification the skin of a small bird, which proved to be that of a Little Bunting, *Emberiza pusilla*, Pallas, in winter dress. Mr. A. Holt Macpherson, to whom I shewed the skin, agreed with my identification of it. It had been caught alive with bird-lime, in the beginning of October 1902, at Pailton, near Rugby, and since then, down to the present winter, it had lived in a cage. It was sold to Mr. Carroll at the end of last year, but died soon afterwards, when it was skinned by Miss Williams of Dublin, who ascertained that it was a male. This is the fourth (the third in point of date) occurrence of the Little Bunting in Great Britain. Three out of the four examples occurred in the month of October, and the fourth was brought alive to the late Mr. Swaysland on the 2nd of November. Gätke gives the dates of the occurrences of about thirty-five examples of this Bunting on Heligoland; and almost all these were in October or the last week in September.

Yours &c.,
O. V. Aplin.

Bloxham, Oxon,
23rd Feb., 1904.

Sirs,—Permit me to draw attention to the exceptional migration of Waxwings (*Ampelis garrulus*) to Ireland—chiefly the north—in the latter part of 1903. The numbers have apparently never been surpassed, as may be seen on comparison with the records in the 'Irish Naturalist' and elsewhere.

Between Oct. 22nd and Dec. 21st no less than 14 specimens were reported from the Counties of Antrim, Armagh, Kildare, and Derry, and this is doubtless by no means a complete list.

It would be interesting to learn whether many individuals were observed about the same time in other parts of Britain, which would perhaps give the line of this unusual migration.

For details see Mr. Patterson's note in the 'Irish Naturalist' of Feb. 1904, Mr. Wright's in 'The Zoologist' of Dec. 1903, and my own in the 'Avicultural Magazine' of Jan. 1904.

Yours &c.,
W. H. WORKMAN.

Lismore,
Windsor, Belfast.

New Fossil Form referred to the Struthiones.—At the meeting of the Zoological Society of London on Jan. 19th last Dr. Andrews described a new fossil form of the order Struthiones, based on the distal end of the tibio-tarsus of a large bird which he had himself obtained from the Upper Eocene Beds of the Fayûm in Egypt, where it was found associated with remains of *Palæomastodon* and *Arsinoitherium*. It was suggested that this form (which it was proposed to call *Eremopezus eocænus*) might have been an ancestral relative of the Struthionidæ and Æpyornithidæ.

A new Finch from Java.—In 1902, Dr. Finsch (Notes Leyd. Mus. xxiii. p. 151) described a remarkable new species of Finch of the genus *Crithagra*, based on a single female example sent to him by his energetic correspondent Herr Max Martels, of Pasir Datar, in Java, and named it *Crithagra estheræ*, after his daughter. He has now received from the same correspondent an adult male example of this form and describes and figures both sexes in the January number of the 'Journal für Ornithologie' (p. 122, tab. A). The new Finch is very curiously coloured with brown, white, and yellow, and is surprisingly distinct from every other known species. It was discovered by Herr Martels on the extinct Volcano Pangerango, at a height of 6000 feet above the sea-level.

Wytsman's 'Genera Avium.'—Mr. Wytsman has sent us a "specimen part" of his proposed work on the 'Genera of Birds,' to the plan of which we called attention in our last issue (see above, p. 171). It has been prepared by Mr. Ernst Hartert, and contains a clear and concise synopsis of the family Eurylæmidæ, written in English, which is to be the language of the whole work. After a short introduction and bibliography, the family is divided into two subfamilies, and the genera and species of each are treated in systematic order. The species are shortly diagnosed and their exact localities are indicated. A coloured plate drawn by Keulemans illustrates the structure of the genera and portrays *Serilophus lunatus rothschildi* of Perak.

Lieut. Boyd Alexander's Expedition to Upper Nigeria.—Our much-valued friend and correspondent Lieut. Boyd Alexander, of the Rifle Brigade, left England by the West-African Mail-Steamer on Feb. 27th last, at the head of a new scientific expedition for the exploration of the eastern parts of Northern Nigeria and the countries bordering on Lake Chad. He is accompanied by his brother Lt.-Col. Alexander of the Scots Guards (as surveyor) and Capt. G. B. Gosling of the Rifle Brigade. On reaching the mouth of the Niger the party will be joined by José Lopez, the Portuguese taxidermist, who went with Lieut. Alexander to Fernando Po; Braima Dumbana (a Hausa from Kuka), who will act as guide; and Hadji Abu Bukar, an Arab interpreter. Thence they will proceed by steamer up the Niger to Lokoja and follow the Benué as far as the mouth of its northern tributary, the Gongola, in about 12° E. long. The River Gongola will be ascended in two light steel boats, which have been taken out with the party in sections, to a place called Tonga, in about 11° N. lat. Here the headquarters of the expedition will remain for at least three months, while excursions will be made into the adjacent districts of Bauchi, Katagum, and South Bornu, and every sort of information about the topography, geology, and natural history of the country will be amassed. We need hardly assure the readers of 'The Ibis' that the birds of Tonga will receive their full share of attention, José Lopez being an experienced collector. After leaving Tonga it is proposed to explore the valley of the River Komadugu, which enters Lake Chad at Yo, and thence to pass into the northern portion of the German colony of Kamerun. But the exact route of return must depend on circumstances. General Sir Frederick Lugard has promised every possible assistance to the expedition.

British Ornithologists abroad.—Besides Captain Boyd Alexander, several other ornithological friends are now away, "*ultrà quatuor maria.*" Mr. Scott Wilson, whose previously announced departure was delayed by an accident (see 'Ibis,' 1902, p. 354) and other circumstances, is now on his way to Tahiti; Mr. M. J. Nicoll is in Lord Crawford's yacht, the 'Valhalla,' in the West Indies, and writes to us from Grenada, having previously visited Barbadoes and St. Lucia; Mr. Douglas Carruthers is at Beyrout, being temporarily attached to the Museum of the Syrian Protestant College there; and Mr. Howard Saunders has taken refuge in Southern Spain, whence, however, he proposes to return in time for our Anniversary Meeting on May 11th.

The Society for the Protection of Birds.—Every member of the B. O. U., we are sure, will sympathise generally with the objects of the Society for the Protection of Birds, and will be pleased to hear that the thirteenth Annual Meeting of the Society (which was held on February 24th last) was well attended, a good account of its progress being given. The Report of the Committee (published at 3 Hanover Square) informs us that the efforts of the Society in 1903 have been directed principally into three channels—the better protection of the breeding-places of our rarer birds; the extension of "Bird-and-Tree-day" competitions; and the further exposure of the "artificial-osprey-fraud" and the protest against bird-trimmed ladies' hats. With the first and last we shall all thoroughly agree, but we are not quite sure that the Bird-and-Tree-day movement may not be carried to excess in some directions, unless great care be taken.

As regards the so-called "artificial ospreys," it is satisfactory to know that there can no longer be any doubt as to their real origin. A number of these alleged artefacts, purchased in some of the leading milliners' shops and submitted to experts, have been pronounced to be in every case (whether priced at 21*s.* or 3¾*d.*) entirely composed of the breeding-plumes of birds of the Heron-family.

The Committee have decided to apply to the Privy Council for a Charter of Corporation, which will, no doubt, be granted to the Society in due course.

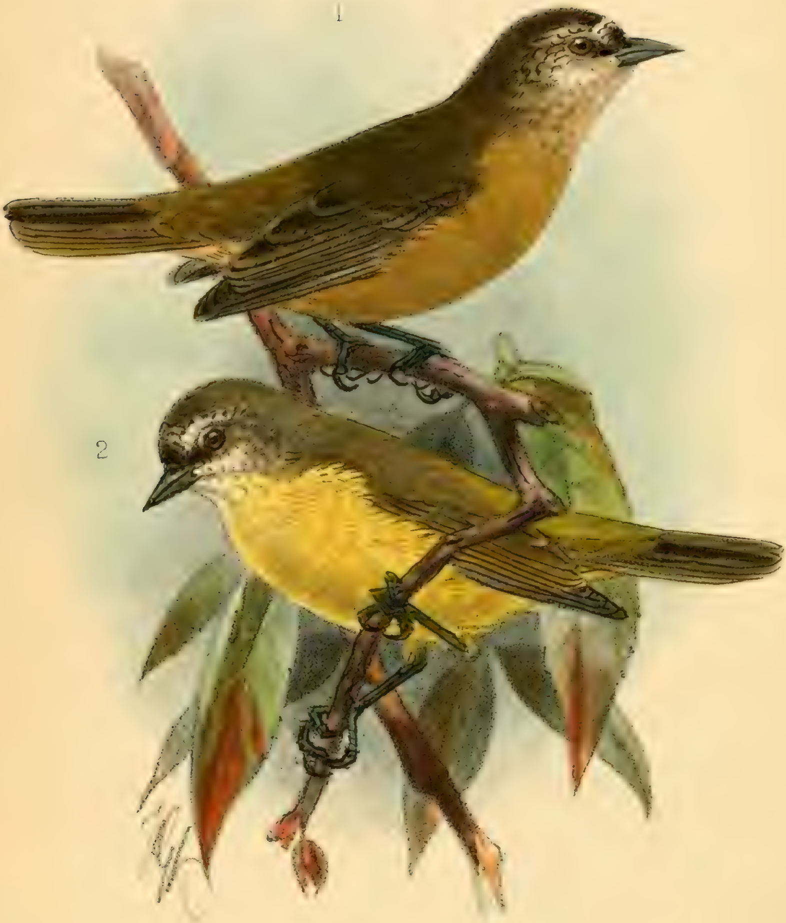
Obituary.—Mr. J. S. BUDGETT and Mr. W. G. DOGGETT.

JOHN SAMUEL BUDGETT, M.A., of Trinity College, Cambridge, Balfour Student of the University, who died at Cambridge on the 19th of February last, at the early age of 31 years, from fever contracted in the Niger-Delta, was a promising zoologist of the best type, being equally good at work in the museum and in the field. Before he attained final success in the acquisition of materials for the study of the development of the fishes of the genus *Polypterus* (which he had set before himself as a special piece of work) Budgett had visited some of the least healthy spots in tropical Africa four times, and up to his last journey had escaped unscathed. Budgett was not specially an ornithologist, but he was a careful observer and knew the West-African ornis well. In this Journal for 1901 (p. 481) will be found an excellent article on the Birds of the Gambia, which, so far as we know, was his only published contribution to our branch of zoology.

Walter Grimwood Doggett, whose death has lately been reported to the Foreign Office, was 27 years of age. He was the son of Mr. F. Doggett, taxidermist, of Cambridge.

Mr. Doggett was selected in 1899 by Dr. Sclater to accompany Sir Harry Johnston's Special Mission to Uganda as collector. He was an admirable photographer and many of his beautiful photographs adorn Sir Harry Johnston's book on the Uganda Protectorate. He was also a very clever draughtsman, and might have risen to some little eminence through his paintings alone. He was a very good shot with the rifle, and a horseman that could ride any mount. In fact, before he started for Uganda, he had been galloper to the commanding officer of a volunteer regiment. All who travelled with him in tropical Africa noted him as remarkable for a good temper that scarcely anything could ruffle, and a cheery optimism under all circumstances. After being for some time in Sir Harry Johnston's service, he entered that of the Uganda Administration, and was thereupon attached as naturalist to the Anglo-German Boundary Commission. Accompanying this Commission, he studied the fauna and flora and collected specimens on the banks of the River Kagera, the ultimate source of the Nile and the most important affluent of the Victoria Nyanza, which it enters on the west coast, just under the Equator. Mr. Doggett was drowned by the capsizing of a canoe when attempting to cross the Kagera.

Biological investigations in Africa have sustained a serious loss in this abrupt termination of a promising career, as, although Mr. Doggett had not much scientific knowledge, he was an admirable collector, and his anthropological studies were becoming of distinct scientific value. His name has already been attached to not a few species of animals (chiefly Invertebrates) and to one or two striking species of plants. Doggett was the first naturalist to observe the *Balæniceps* on Lake Victoria and to send home specimens from that new locality (see 'Ibis,' 1901, p. 157).—H. H. J.



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1. ANTHOSCOPUS MINUTUS. 2. A. SMITHI.

THE IBIS.

EIGHTH SERIES.

No. XV. JULY 1904.

XXIV.—*On a Collection of Birds from the District of Deelfontein in Cape Colony.* By R. Bowdler Sharpe, LL.D. &c.—Part II.*

(Plate VIII.)

In this paper I finish the account of the very interesting collection of birds presented to the British Museum by Colonel Sloggett, C.M.G.

The field-notes supplied to me by our young collectors Seimund and Grant, of the Imperial Yeomanry, cannot fail to be of interest, while the facts concerning the geographical distribution of certain South-African species brought to light by a study of this large collection of birds are really important. Figures are given (Plate VIII.) of the two species of Penduline Tits of South Africa.

53. Riparia paludicola.

Cotile paludicola (V.); Sharpe, ed. Layard, pp. 361, 840 (1875–84); id. Cat. B. x. p. 102 (1885); id. & Wyatt, Monogr. Hirund. i. p. 73, pl. xi. (1890); Stark, Faun. S. Afr., Birds, ii. p. 283 (1901).

Clivicola paludicola Sharpe, Hand-l. B. iii. p. 189 (1901).

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* For Part I., see above, pp. 1–29.

Riparia paludicola Reichenow, Vög. Afrikas, ii. p. 396 (1903).

a. ♀ juv. Deelfontein, March 5, 1902.
b. ♀ juv. „ April 3, 1902.
c, d. ♀ ad. et juv. Deelfontein, Nov. 30, 1902.

The young bird killed in March is just completing its moult, but has some whitish edgings to the scapulars and innermost secondaries. The other young bird shot in April is also in full moult, and still has the old primaries. The throat and chest are much suffused with ashy.

54. PTYONOPROGNE FULIGULA.

Cotyle fuligula (Licht.); Sharpe, ed. Layard, pp. 360, 840 (1875–84).

Cotile fuligula Sharpe, Cat. B. x. p. 106 (1885); id. & Wyatt, Monogr. Hirund. i. p. 115, pl. xvii. (1887).

Biblis fuligula Sharpe & Wyatt, t. c. p. 130 (1894).

Ptyonoprogne fuligula Sharpe, Hand-l. B. iii. p. 190 (1901); Stark, Faun. S. Afr., Birds, ii. p. 286 (1901).

Riparia fuligula Reichenow, Vög. Afrikas, ii. p. 399 (1903).

a, b. ♂; *c, d, e.* ♀ ad. et imm. Deelfontein, March 3, 1902.
f. ♂; *g, h.* ♀ imm. Deelfontein, April 3, 14, 1902.
i. ♀ ad. Deelfontein, May 30, 1902.
k. ♀ ad. „ Oct. 24, 1902.

In some of the adult birds there are slight remains of dusky streaks on the throat and breast. The female procured in October is in worn plumage and appears to have been breeding. The examples killed in March are immature and have remains of rufous edgings on the feathers of the upper surface, although the moult is nearly completed (with the exception of the long primaries), shewing that these evidences of immaturity last a little time after the moult into the first mature plumage: the rufous edgings are still to be seen in April specimens, nor is that killed in May entirely devoid of them.

[Fairly common with us all the year round. The nests are made of mud, lined with feathers; they are placed on the sides of houses and rocks.]

55. HIRUNDO RUSTICA.

Hirundo rustica Linn.; Sharpe, ed. Layard, pp. 362, 840 (1875–84); id. Cat. B. x. p. 128 (1885); id. Hand-l. B. iii. p. 192 (1901); id. & Wyatt, Monogr. Hirund. i. p. 213, pls. xxxvi.–xxxviii. (1893); Stark, Faun. S. Afr., Birds, ii. p. 289 (1901); Reichenow, Vög. Afrikas, ii. p. 407 (1903).

a, b, c, d. ♂ juv.; *e.* ♀ juv. Deelfontein, Nov. 13–16, 1902.

f. ♂ ad. Deelfontein, Dec. 13, 1902.

The young birds are all moulting into their first fully adult blue plumage, and four of them have still whitish foreheads. The December bird has completed most of the moult, but still retains the old quill-feathers.

[Very common in the winter months, the young arriving before the old birds, which follow about three weeks later.]

56. HIRUNDO ALBIGULARIS.

Hirundo albigularis Strickl.; Sharpe, ed. Layard, pp. 364, 840 (1875–84); id. Cat. B. x. p. 146 (1885); id. & Wyatt, Monogr. Hirund. i. p. 303, pl. lii. (1889); Stark, Faun. S. Afr., Birds, ii. p. 292 (1901); Sharpe, Hand-l. B. iii. p. 194 (1901); Reichenow, Vög. Afrikas, ii. p. 405 (1903).

a. ♀ ad. Deelfontein, Jan. 6, 1901.
b. ♀ ad. „ March 10, 1902.
c, d. ♂ ♀ ad. „ April 3, 1902.
e. ♂ ad. „ Oct. 31, 1902.

[Not so common as *H. cucullata*, and generally found round the farms. It breeds with us.]

57. HIRUNDO DIMIDIATA.

Hirundo dimidiata Sund.; Sharpe, ed. Layard, pp. 366, 841 (1875–84); id. Cat. B. x. p. 148 (1885); id. & Wyatt, Monogr. Hirund. i. p. 313, pl. lv. (1889); Stark, Faun. S. Afr., Birds, ii. p. 293 (1901); Sharpe, Hand-l. B. iii. p. 195 (1901); Reichenow, Vög. Afrikas, ii. p. 403 (1903).

a. ♀ ad. Deelfontein, April 3, 1902.

58. HIRUNDO CUCULLATA.

Hirundo cucullata Bodd.; Sharpe, ed. Layard, pp. 370, 841 (1875–84); id. Cat. B. x. p. 152 (1885); id. & Wyatt, Monogr. Hirund. i. p. 337, pl. lxii. (1886); Stark, Faun. S. Afr., Birds, ii. p. 298 (1901); Sharpe, Hand-l. B. iii. p. 190 (1901); Reichenow, Vög. Afrikas, ii. p. 412 (1903).

a. ♂ ad. Deelfontein, Jan. 8, 1901.
b, c. ♂ ♀ juv. Deelfontein, Jan. 20, 1901.
d–f. ♂ ad.; *g, h.* ♀ ad. Deelfontein, March 5, 1902.
i. ♂ ad. „ April 3, 1902.
k, l. ♂ ♀ ad. „ Oct. 24, 1902.
m, n. ♂ ad.; *o–q.* ♀ ad. „ Oct. 29, 1902.
r, s. ♂ ♀ ad. „ Nov. 29, 1902.

There seems to be scarcely any difference between the sexes. It is evident from the Deelfontein series that this Swallow, though a resident in South Africa, follows the same fashion as migrating Swallows do, and moults in the winter season, acquiring its full plumage before the breeding-time comes on. All the birds killed in October and November (the latter with nest and eggs) have nearly uniform rufous crowns, with scarcely a trace of black mottling. As the breeding-season progresses, however, we find the crown mottled with black bases to the feathers, which become much worn from January to March. Nestling birds have the head very thickly mottled with black, the inner secondaries broadly tipped with cinnamon-rufous, and the stripes on the under surface rather broader. One egg is pure white, peppered with faint reddish dots, very indistinct, but a little more plentiful at the larger end: axis 0·85 inch, diam. 0·6. Two others are pure white with a few faint reddish dots, chiefly near the large end; these dots are very few and scarcely perceptible: axis 0·75–0·8 inch, diam. 0·6.

[Very common and breeds with us. The nests have a long spout and are built in sheltered spots on the farms. The eggs are four in number. Both the parent birds sleep in the nest at night.]

59. PETROCHELIDON SPILODERA.

Petrochelidon spilodera (Sundev.); Sharpe, ed. Layard, pp. 357, 839 (1875–84); id. Cat. B. x. p. 198 (1885); id. Hand-l. B. iii. p. 201 (1901); id. & Wyatt, op. cit. ii. p. 573, pl. cx. (1890); Stark, Faun. S. Afr., Birds, ii. p. 304 (1901); Sharpe, Hand-l. B. iii. p. 201 (1901); Reichenow, Vög. Afrikas, ii. p. 423 (1903).

a–e. ♂ ♀ ad. Deelfontein, Oct. 31, 1902.

[These birds are not common, and do not remain all the year with us.]

60. Bradyornis infuscatus.

Saxicola infuscata Smith; Sharpe, ed. Layard, p. 402 (1878).

Bradyornis infuscatus (Smith); Sharpe, ed. Layard, p. 844 (1875–84); Seebohm, Cat. B. v. p. 406 (1881); [*mariguensis*] Sharpe, Bull. B. O. C. xii. p. 2; id. Hand-l. B. iii. p. 208 (1901); Stark, Faun. S. Afr., Birds, ii. p. 237 (1901); Reichenow, Vög. Afrikas, ii. p. 434 (1903).

a. ♂ juv. Deelfontein, Jan. 20, 1901. Iris dark hazel.
b. ♂ ad. „ May 4, 1902.
c. ♀ ad. „ Aug. 25, 1902.
d, e. ♂ ♀ ad. „ Sept. 23, 1902.
f. ♂ ad. „ Nov. 23, 1902.

In the ‘Hand-list’ I omitted to record *Bradyornis benguellensis* of Souza, Jorn. Lisb. 1886, p. 160. The Museum possesses a specimen of this bird presented by Professor Barboza du Bocage, and from the light margins to the greater wing-coverts and outer tail-feathers it is evidently a close ally of *B. infuscatus*, and not of *B. murinus*, with which Prof. Souza compared it. It is a little more reddish brown above and has a whiter throat and abdomen, but there is not very much difference between the two forms. A specimen from Benguela obtained by Monteiro is very much paler than more southern birds, and is more ashy on the head and chest.

61. Stenostira scita.

Stenostira scita (Vieill.); Sharpe, ed. Layard, p. 352 (1875–84); id. Cat. B. iv. p. 267 (1879); id. Hand-l. B. iii. p. 240 (1901); Reichenow, Vög. Afrikas, ii. p. 493 (1903).

Apalis scita Stark, Faun. S. Afr., Birds, ii. p. 122 (1901).

a. Juv. Deelfontein, Jan. 5, 1901. Iris dark hazel.

b. ♀ ad. „ Feb. 8, 1901.

c. ♂ juv. „ Feb. 23, 1902. Bill and feet black.

d–h. ♂ ♀ ad. Deelfontein, March 14, 1902. Iris dark hazel; bill and feet black.

i. Ad. Deelfontein, March 22, 1902.

k. ♂ ad. „ April 25, 1902.

l. ♀ ad. „ June 11, 1902.

The adult female is exactly like the male in general coloration, and has almost as much pink on the throat and abdomen. The male is slightly lighter grey. Young birds are decidedly browner on the upper surface and on the chest, and the pink on the throat and abdomen is absent. Both sexes seem to be browner in winter plumage.

[Not very common, being generally seen in parties of three or four individuals on the kopjes. Very active in its habits.]

62. Parisoma subcæruleum.

Parisoma subcæruleum (V.); Sharpe, ed. Layard, pp. 332, 836 (1875–84); id. Cat. B. iv. p. 268 (1879); Shelley, B. Afr. ii. p. 213 (1900); Sharpe, Hand-l. B. iii. p. 242 (1901); Stark, Faun. S. Afr., Birds, ii. p. 75 (1901).

a. ♂ ad. Deelfontein, May 23, 1902.

b. ♂ ad. „ July 31, 1902. Iris light yellow.

c, d. ♂; *e.* ♀ ad. Deelfontein, Aug. 2–13, 1902.

The male bird killed on the 2nd of August shews some indications of blackish streaks on the head. This is probably a sign of the approach of the nesting-season, but I find very few specimens shewing any traces of these streaks in our large series.

[Very local, and not so common as *P. layardi*. It is mostly found frequenting the dog-wood bushes on the veldt, but we have also met with it on the kopjes. In its flight and actions it resembles *P. layardi*, and it is difficult to distinguish it from that species.]

63. Parisoma layardi.

Parisoma layardi Hartl.; Sharpe, ed. Layard, pp. 334, 836 (1875–84); id. Cat. B. iv. p. 270 (1879); Shelley, B. Afr. ii. p. 215 (1900); Sharpe, Hand-l. B. iii. p. 243 (1901); Stark, Faun. S. Afr., Birds, ii. p. 76 (1901).

a. ♀ ad. Deelfontein, March 14, 1902. Iris very pale yellow; bill and feet black.

b. ♀ ad. Deelfontein, March 25, 1902.

c. ♂ ad. ,, April 8, 1902. Iris white; bill and feet black. Shot on a kopje.

d. ♀ ad. Deelfontein, May 24, 1902.
e. ♂ ad. ,, May 31, 1902.
f. Ad. ,, July 31, 1902. Iris light yellow.
g, h. ♀ ad. ,, Aug. 2, 1902.
i. ♀ ad. ,, Aug. 13, 1902.
k. ♀ ad. ,, Sept. 22, 1902.
l. ♂ ad. ,, Sept. 24, 1902.

After the nesting-season, which is evidently in November and December, the plumage becomes much worn, and the under tail-coverts are more dusky, owing to the display of the dark bases of the feathers by the wearing away of the white edges. In March and April a moult takes place, and there is a buff tinge on the lower flanks. The stripes on the throat vary very much in breadth, though this difference is not sexual, as old males and females seem to be exactly alike in plumage, but I think that the young must be more feebly streaked than the adult birds. There is no sign of any Thrush-like spotting on the specimens sent by Messrs. Seimund and Grant, and therefore we may take it as almost certain that the young birds resemble the adults, and that *Parisoma* will have to be removed from the Muscicapidæ.

[Very common, being generally found in the dog-wood bushes. It is a very active little bird, with a pretty call-note; its food consists of insects. We never found the nest, but procured some young.]

64. PYCNONOTUS NIGRICANS.

Pycnonotus capensis, pt., Sharpe, ed. Layard, pp. 207, 815 (1875–84).

Pycnonotus nigricans Sharpe, ed. Layard, p. 815 (1884);

id. Cat. B. vi. p. 134 (1881); Stark, Faun. S. Afr., Birds, ii. p. 64 (1901); Sharpe, Hand-l. B. iii. p. 330 (1901).

a. ♀ imm. Deelfontein, Feb. 16, 1902.
b. ♀ imm. „ April 11, 1902.
c. ♀ ad. „ May 11, 1902.
d, e. ♂ ad. „ May 20, 1902. Iris reddish brown; eyelid orange; bill and feet black.
f, g. ♂ ♀ ad. Deelfontein, May 22, 1902.
h, i. ♂ ♀ ad. „ Aug. 7, 1902.

The young birds are of a much duller brown than the adults, and have the head and throat brown instead of black. As will be seen by the list, immature examples were obtained in February and April: both are moulting into the adult plumage.

[Fairly common, and said to be very destructive to figs. Mostly found round the farms, but also met with on the kopjes. We procured young birds, but did not find a nest.]

65. TURDUS CABANISI.

Turdus olivaceus, pt., Sharpe, ed. Layard, p. 201 (1876).

Turdus cabanisi Seebohm, Cat. B. v. p. 228 (1881); Sharpe, ed. Layard, p. 813 (1884); Stark, Faun. S. Afr., Birds, ii. p. 177 (1901).

Merula cabanisi Sharpe, Hand-l. B. iv. p. 127 (1903).

a. ♂ ad. Deelfontein, May 20, 1902.

Deelfontein is an interesting locality for this species, which is more plentiful in the Transvaal.

[This Thrush must have been uncommon in the district, as we saw but one specimen. A farmer told us that he had shot its mate a week before our arrival.]

66. ERYTHROPYGIA CORYPHÆUS.

Aedon coryphæa (L.); Sharpe, ed. Layard, pp. 251, 821 (1875–84).

Erythropygia coryphæus Sharpe, Cat. B. vii. p. 73 (1883); Stark, Faun. S. Afr., Birds, ii. p. 229 (1901); Sharpe, Hand-l. B. iv. p. 167 (1903).

a. ♀ ad. Deelfontein, Jan. 11, 1901.

b–d. ♂ ♀ ad. Deelfontein, Feb. 18–23, 1902. Bill and feet black; eyes dark brown.

e–g. ♂ ad.	Deelfontein,	March 2–26, 1902.
h. ♂ ad.	,,	April 15, 1902.
i–n. ♂ ♀ ad.	,,	May 7–25, 1902.
o. ♀ ad.	,,	Oct. 8, 1902.

The collectors did not procure any young birds in the spotted stage, but the Museum possesses such a specimen sent by Layard to myself. In the young the edges to the greater coverts and secondaries are distinctly rufous. A male shot on the 23rd of February is moulting from the young plumage into the first winter plumage, and the upper surface is much darker brown and the breast and flanks much more rufous than in breeding birds, which are decidedly greyer both above and below.

[Very common, and found everywhere all the year round; it was in great numbers among the bushes. The nests were placed in old stone walls, and the eggs were generally three in number, rarely four.]

67. PETROPHILA EXPLORATOR.

Monticola explorator Sharpe, ed. Layard, pp. 220, 816 (1875–84); Seebohm, Cat. B. v. p. 323 (1881); Stark, Faun. S. Afr., Birds, ii. p. 183 (1901).

Petrophila explorator Sharpe, Hand-l. B. iv. p. 145 (1903).

a. ♀ ad. Deelfontein, May 31, 1902. [Tarsus 1·35.]

b. ♂; *c, d.* ♀ ad. Deelfontein, June 10–13, 1902. [Tarsus in ♂ 1·35, in ♀ 1·25–1·3.]

e, f. ♀ ad. Deelfontein, Aug. 5–13, 1902. [Tarsus 1·3–1·35.]

The female killed in May appears to be a young bird in first winter plumage; it is rather more rufous on the lower parts, with distinct scaly markings on the chest, which has not the broad whitish stripes found in older birds.

[This Rock-Thrush was not very common, but appeared about the beginning of May, the majority leaving in September, though we shot an occasional bird up to January. It was mostly seen in pairs on the veldt, but was also observed on the kopjes. We did not succeed in finding a nest.]

68. PETROPHILA BREVIPES.

Monticola brevipes (Waterh.); Sharpe, ed. Layard, pp. 221, 816 (1875–84); Seebohm, Cat. B. v. p. 324 (1881).

Petrophila brevipes Sharpe, Hand-l. B. iv. p. 145 (1903).

a. ♂ ad. Deelfontein, Jan. 7, 1902. [Tarsus 1·0.]
b, c, d. ♂ ad. „ May 5–22, 1902. [Tarsus 1·0–1·05.]
e. ♀ ad. „ May 23, 1902. [Tarsus 1·0.]

The travellers do not seem to have recognised the distinctness of these two Rock-Thrushes, but *P. brevipes* is smaller, with a shorter tarsus, and has a hoary-white shade over the head. The grey of the throat does not extend to the fore-neck, and the rufous colour of the rump and under parts is paler than in *P. explorator*. The female of *P. brevipes* is likewise greyer above, and is more coarsely mottled with blackish on the sides of the throat, which is very white in contrast; the rest of the under parts are brighter orange, with narrow black margins to the feathers of the fore-neck and breast, so that the bird does not appear to be striped as the female of *P. explorator* is.

It is a curious fact that both in the 'Catalogue of Birds' and in the 'Hand-list' the specific name of *brevipes* is attributed to Strickland and Sclater instead of to the late Mr. G. R. Waterhouse, who first described the species in Alexander's 'Expedition of Discovery' (1838).

69. COSSYPHA CAFFRA.

Cossypha caffra (L.); Sharpe, ed. Layard, pp. 224, 816 (1875–84); id. Cat. B. vii. p. 39 (1883); Stark, Faun. S. Afr., Birds, ii. p. 213 (1901); Sharpe, Hand-l. B. iv. p. 163 (1903).

a. ♀ ad. Deelfontein, July 3, 1902.

The single specimen obtained has a very dark throat and chest, approaching cinnamon, as contrasted with the light orange-rufous throat and whitish chin of Natal birds. The difference is not due to seasonal plumage, as specimens killed in January and July are identical. Were it not that some of the Cape Colony examples are intermediate, I should have considered the dark- and light-throated races to be subspecifically distinct.

[Not common. Partial to the thick bush, and very active in its ways.]

70. PRATINCOLA TORQUATA.

Pratincola torquata (L.); Sharpe, ed. Layard, p. 250 (1875–84); id. Cat. B. iv. p. 190 (1879); Stark, Faun. S. Afr., Birds, ii. p. 190 (1901); Sharpe, Hand-l. B. iv. p. 172 (1903).

a. ♂ ad. Deelfontein, Aug. 5, 1902.

[This Stone-Chat was a very rare bird with us.]

71. MYRMECOCICHLA FORMICIVORA.

Myrmecocichla formicivora Sharpe, ed. Layard, p. 231 (1875-84); Seebohm, Cat. B. v. p. 356 (1881); Stark, Faun. S. Afr., Birds, ii. p. 186 (1901); Sharpe, Hand-l. B. iv. p. 174 (1903).

a. ♂. Deelfontein, Feb. 28, 1892.
b–e. ♂ ♀ ad. ,, April 29, 1902.
f, g. ♂ ♀ ad. ,, May 15, 1902.
h. ♂. ,, Aug. 29, 1902.

This species has a distinct winter plumage. The breeding birds are rusty brown in hue, as is shown by the specimen killed in February. In April they moult into a much darker plumage, the feathers of the under surface being black with broad brown edges, more or less ashy in tint. This plumage continues through the winter, and by abrasion of the margins becomes much more rusty towards the breeding-season.

[This Chat was very common, and was generally seen sitting on an ant-hill or on a bush of about the same height. It was a resident bird with us, being met with all the year round, and, when searching for insects, it had a hovering flight, sustaining itself in the air with rapid beats of its wings.]

72. POLIOCICHLA SINUATA.

Saxicola sinuata Sharpe, ed. Layard, pp. 236, 818 (1875–84).

Myrmecocichla sinuata Seebohm, Cat. B. v. p. 359 (1881).

Emarginata sinuata Shelley, B. Afr. i. p. 89 (1896); Stark, Faun. S. Afr., Birds, ii. p. 203 (1901).

Poliocichla sinuata Sharpe, Hand-l. B. iv. p. 175 (1903).

a, b. ♀ ad. et juv. Deelfontein, Jan. 8–23, 1901.
c–e. ♂ ♀ ad. et juv. ,, Feb. 1–4, 1901.
f, g. ♀ imm. et juv. ,, Feb. 7–16, 1902.
h–l. ♂ ; *m–o.* ♀ ad. ,, May 15–24, 1902.
p. ? ♀ ad. ,, June 10, 1902.
q–s. ♂ ad. ,, Aug. 23–25, 1902. Iris dark brown.
t–v. ♂ ad. et ♂ ♀ juv. ,, Oct. 29, 1902.

Young birds in spotted plumage were obtained in October and also in January. The nestlings shew the sinuation of the primary very distinctly, while by the latter month the first brood have evidently begun to moult and by the early part of February are in their first winter plumage. This in old and young birds is more ashy brown than the breeding-dress, which becomes worn and abraded.

[This was a very common Chat, found nearly everywhere on the kopjes and veldt. Its food consisted of insects only.]

73. POLIOCICHLA POLLUX.

Saxicola pollux Hartl.; Sharpe, ed. Layard, pp. 244, 819 (1875–84).

Myrmecocichla pollux Seebohm, Cat. B. v. p. 357.

Emarginata pollux Shelley, B. Afr. i. p. 89 (1896); Stark, Faun. S. Afr., Birds, ii. p. 203 (1901).

Poliocichla pollux Sharpe, Hand-l. B. iv. p. 175 (1903).

a. ♀ ad. Deelfontein, Feb. 28, 1902. Iris hazel; bill and legs black.
b, c. ♀ ad. ,, March 19–22, 1902.
d. ♂ ad. ,, April 25, 1902.
e. ♀ ad. ,, May 9, 1902.
f. ♀ ad. ,, May 23, 1902.
g, h. ♂ ad. ,, Aug. 25, 1902.

i. ♀ ad. Deelfontein, Sept. 5, 1902.
k. ♂ ad. „ Dec. 10, 1902.

The winter plumage seems to be browner than the breeding-plumage, when the brownish edgings fall off and leave the summer dress grey. On the under surface there is a very distinct shade of rusty colour pervading the throat, abdomen, and under tail-coverts. The upper tail-coverts are slaty grey, but they shew a good deal of white near their bases, and some of the lateral feathers are entirely white. We shall thus have three forms:—

- *a.* Upper tail-coverts white.
  - *a′.* Larger: ashy grey; throat and breast light ashy grey .... *cinerea* (Gt. Namaqua-land).
  - *b′.* Smaller: light brownish grey; throat and breast delicate isabelline .... *schlegeli* (Damara-land).
- *b.* Upper tail-coverts ashy grey, the lateral white. Dark ashy grey; throat and breast cindery grey.................................. *pollux* (Cape Colony).

The series brought by Messrs. Seimund and Grant is very interesting as shewing the plumage of the species throughout the year, though there is little change as regards colour; the sharpness of the indentation on the first primary varies somewhat, being slightly less marked in freshy moulted specimens. The bird which is found in Great Namaqua-land, with the upper tail-coverts entirely pure white, is, I believe, the veritable *Œnanthe cinerea* of Vieillot, founded on the "Traetrae" of Levaillant from Outeniqua-land. *P. schlegeli* seems to be a light form of *P. cinerea.*

[The large grey Sickle-wing Chat was not very common. It was difficult to distinguish it by its habits from *Saxicola monticola.* It was very fond of sitting on telegraph-wires and tall bushes.]

74. POLIOCICHLA LAYARDI.

Saxicola layardi Sharpe, ed. Layard, pp. 236, 818 (1875–84); Seebohm, Cat. B. v. p. 399, pl. xviii. (1881); Stark, Faun. S. Afr., Birds, ii. p. 200 (1901); Sharpe, Hand-l. B. iv. p. 176 (1903).

a. ♀ juv. Deelfontein, Jan. 8, 1901.

b, c. ♂ ; *d.* ♀ ad. Deelfontein, May 15, 1902.

e. ♀ ad. Deelfontein, Oct. 10, 1902.

There is a very distinct sinuation at the end of the first long primary (2nd), and thus *Saxicola layardi* must be placed in *Poliocichla*, or the variation in sinuation shown by the different species must be considered to prove the worthlessness of the character, and all the species replaced in the genus *Saxicola*.

P. layardi finds its natural position near *P. sinuata* and closely resembles it in colour. It is, however, distinguished by its creamy-white upper tail-coverts and base of tail, which are rufous in *P. sinuata*.

The nestling is much lighter than in *P. sinuata*, the sandy spots are very much paler, and the upper tail-coverts are conspicuously sandy white, not rufous.

[Not very common, and rather shy. Found on the rocky flats.]

75. SAXICOLA FAMILIARIS.

Saxicola galtoni Strickl. ; Sharpe, ed. Layard, pp. 234, 818 (1875–84) ; Seebohm, Cat. B. v. p. 390 (1881) ; Stark, Faun. S. Afr., Birds, ii. p. 201 (1901).

Saxicola familiaris Steph. ; Sharpe, Hand-l. B. iv. p. 175 (1903).

a, *b.* ♀ ad. et ♂ juv. Deelfontein, Feb. 12 & 28, 1902. Iris dark brown ; bill and feet black.

c–e. ♂ ♀ ad.	Deelfontein,	March 5 & 13, 1902.
f. ♂ ad.	„	April 2, 1902.
g–l. ♂ ♀ ad.	„	May 5–31, 1902.
m, *n.* ♂ ♀ ad.	„	June 3, 1902.
o. ? ♀ ad.	„	Aug. 5, 1902.
p. ♂ ad.	„	Oct. 24, 1902.

There is apparently no difference in colour between the sexes, and the young, after losing the spotted plumage, moult into a dark brown dress, which later becomes a little paler and more ashy brown from August to the breeding-season.

In all these Deelfontein birds there is a broad and distinct black band at the end of the tail-feathers, varying only slightly in width. The Natal birds seem to me to be inseparable from those of the Cape Colony; but in Transvaal examples the black band is always narrower, broken up, and on some of the feathers occasionally absent altogether, the colour of the tail being also lighter chestnut. This bird is the *Saxicola familiaris hellmayri* of Reichenow (Orn. MB. x. p. 78). *S. lübberti* of Reichenow (op. cit. p. 77) is a pale form of *S. familiaris,* with a very broad black band at the end of the tail and a somewhat more ashy coloration.

S. falkensteini Cab., described from the Loango Coast (J. f. O. 1875, p. 235), was also found at Schasche by Fischer (Reichen. J. f. O. 1887, p. 78). It is represented in the Seebohm Collection by a specimen from Ugogo. It is ashy below, with a whitish throat and abdomen, while it has the blackish band at the end of the tail much narrower than in *S. familiaris,* and broken up into two spots on some of the feathers, so that the band itself becomes obsolete. To this form I also refer the Zomba specimen recorded by Capt. Shelley as *S. galtoni* (Ibis, 1894, p. 12).

[This was a fairly common species, and frequented the sides of the kopjes, where its nest was generally placed under a stone. These birds keep their wings constantly in motion, and seldom rest them for more than a few moments at a time.]

76. SAXICOLA MONTICOLA.

Saxicola monticola and *S. anderssoni* Sharpe, ed. Layard, pp. 246, 249, 819 (1875–84).

Saxicola monticola (V.); Seebohm, Cat. B. v. p. 380 (1881); Stark, Faun. S. Afr., Birds, ii. p. 194 (1901); Sharpe, Hand-l. B. iv. p. 177 (1903).

a. ♂ juv. Deelfontein, Jan. 1901. Iris hazel.

This bird was killed by Seimund with a catapult when he was first invalided to Deelfontein Hospital. It is black above and below, with a white rump and upper tail-coverts; the outer tail-feathers are not pure white, but shew a great deal of black. Not only does this form a bar at the end of the outer rectrices, but the shafts and the outer webs are also black for a considerable distance, the black increasing in extent towards the centre of the tail, and the white disappearing towards the central rectrices, which are entirely black. This is but the full-grown development of the nestling procured in November, except that the white shoulder-patch is not developed as in the nestling, but what there is of it is *grey*, not light grey, but rather dark slaty grey. The bird is also moulting its body-feathers, and on the sides of the neck and lower back the new plumes are similarly slaty grey.

b. ♀ ad. Deelfontein, Feb. 19, 1901.

This is another bird from Seimund's "catapult" collection of 1901. It is an ordinary female, smoky brown all over except for the white rump and upper tail-coverts. The terminal third of the outer tail-feathers is black.

c. ♂ imm. Deelfontein, March 3, 1902.

A bird in moult from the black plumage to the slaty-grey dress. Lower rump and upper tail-coverts white; otherwise with only an occasional white feather on the lower abdomen; central under tail-coverts black, lateral white; outer rectrices broadly black at the ends and along the outer web. Shoulder-patch not largely developed, some of it ashy, other feathers white, but the ashy shade prevailing.

d. ♂ imm. Deelfontein, March 4, 1902.

This bird has the same grey style of plumage as the foregoing, but is further advanced. It is nearly uniform slaty grey, and the black has all but disappeared from the body-plumage; the under tail-coverts are almost all black, and the outer tail-feathers are entirely white. The head is dark grey like the back, the upper tail-coverts white, with a black marking or two at the ends of the longer feathers. The shoulder-patch is ashy grey, with a little more white on the inner median coverts.

e. ♂ ad. Deelfontein, March 4, 1902.

This bird was killed on the same day as the preceding example, which it resembles in being slaty grey, but of a much lighter shade. The outer tail-feathers, instead of being white, are tipped with black, as in the preceding *young birds.* The specimen is in full moult, and the new greater coverts and inner secondaries are black with broad grey margins. The shoulder-patch is decidedly whiter than in the previously mentioned grey bird.

f. ♀ imm. Deelfontein, March 10, 1902.

The newly moulted feathers are black in comparison with the brown shade to which they ultimately bleach.

g, h. ♂ ♀ ad. Deelfontein, March 19, 1902.

The male has not got the entirely white outer tail-feather; otherwise it is grey and resembles specimen *e* (March 4). In confirmation of the grey plumage being consequent upon the blackish dress, there are still some black feathers remaining on the abdomen.

i, k. ♀ ad. Deelfontein, March 22–31, 1902.

l. ♂ ad. „ April 29, 1902.

A very remarkable specimen which has not yet quite completed its moult. It is black *both above and below,* with black under tail-coverts, a few only of which are fringed with white. The shoulder-patch is pure white, with black bases to a few of the feathers. The crown is somewhat browner than the back and forms a faint cap. The outer tail-feathers are not pure white, but have black tips.

m. ♂ ad. Deelfontein, April 23, 1902.

An adult bird in full grey plumage with the two outer tail-feathers white. The shoulder-patch is very slightly paler grey than the back. The inner median coverts are rather more hoary. The rump is white, but the upper tail-coverts are blackish, more or less washed with slaty grey. The under-tail-coverts are slaty grey, the longer being blackish.

n. ♂ ad. Deelfontein, May 7, 1902.

A *grey* bird, similar to the foregoing, but darker and inclining more to slate-colour, with the bases of the feathers and the centre of most of them blackish, apparently foreshadowing a blackening of the feather *without a direct moult.* The shoulder-patch is grey and the outer tail-feathers are white as in the preceding specimen, while the upper and under tail-coverts are also similar. Most of these grey males have the ear-coverts distinctly brown, forming an auricular patch, in contrast with rest of the plumage.

o. ♀ ad. Deelfontein, May 25, 1902.

An adult female which has completed its moult. The plumage is somewhat greyer than at any other time of the year, especially on the throat and under parts.

p. ♂ ad. Deelfontein, June 14, 1902.

This is a very puzzling specimen, and does not agree with any of the stages accounted for by Butler, Feilden, and Reid. It must be an *old* bird, as it has the outer tail-feathers perfectly white, but the general colour of the plumage is *glossy black*, the shoulder-patch, rump, and abdomen being, however, *pure white*. The head under certain lights appears to have a little browner shade than the back.

q. ♂ ad. Deelfontein, July 22, 1902.

r. ♂ ad. „ July 31, 1902.

This is another extraordinary case, the general colour being *blackish* with a very distinct wash of brown. The head and neck are *dull slaty grey*. The shoulder-patch is pure white with black bases to many of the median coverts. The lower rump and upper tail-coverts are pure white, the longer feathers of the latter having greyish-white tips. The *abdomen is hoary white*, but obscured by a good many brownish feathers. The outer tail-feathers are not pure white, but have the black tips which seem to be a sign of immaturity.

s. ♂ ad. Deelfontein, Aug. 2, 1902.

This bird is *black, above and below*, though the primary and secondary quills are much browner. The shoulder-patch and upper tail-coverts are white (the longer coverts black). Some of the feathers of the abdomen are tipped with white. The three outer tail-feathers are tipped and margined on the apical portion with black. The brown wings and tail seem to belong to the first plumage; the black dress otherwise appears to be freshly assumed.

t. ♂ ad. Deelfontein, Aug. 5, 1902.

An interesting bird in particoloured plumage—apparently old, as it has the outer tail-feathers pure white. The head and neck are light ashy grey, which shade extends over the mantle. The shoulder-patch and entire abdomen are pure white. The under tail-coverts are black, some of them fringed with white.

u. ♀ ad. Deelfontein, Aug. 6, 1902.

This specimen has a brown appearance above and below, which is caused by the paler fringes or margins of the feathers, while the bases of the feathers are black. The upper tail-coverts are white, the longer feathers being black, tipped with white. The lower abdomen is white, the under tail-coverts black fringed with white.

v. ♂ ad. Deelfontein, Aug. 7, 1902.

This specimen is *grey*, with the rump and upper tail-coverts pure white. The shoulder-patch and lower abdomen are ashy white. The ear-coverts are brown, contrasting with the grey on the sides of the neck. The two outer tail-feathers on each side are pure white; the next pair are white on the outer webs, mottled with grey on the inner web and tipped with black.

w, x, y. ♀ ad. Deelfontein, Aug. 10, 12, 24, 1902.

One of these hen birds has the two outer tail-feathers white on one side and the penultimate one on the other side also white.

z. ♂ ad. Deelfontein, Aug. 25, 1902.

This bird is much darker grey than the preceding males, both above and below, including the abdomen; the wing-patch is paler grey with dark shaft-streaks; the rump and upper tail-coverts are pure white, the long coverts black; the outer tail-feathers on one side are white, tipped with black, while on the other side the feathers are mottled with grey, becoming white at the tips.

a′. ♂ ad. Deelfontein, Oct. 22, 1902.

A grey bird very similar to that killed on the 25th of August, but evidently breeding and in somewhat worn plumage. The shoulder-patch is *white*.

b′. ♂; *c′, d′.* ♀ pull. Deelfontein, Nov. 19, 1902.

Of these three nestlings the male shews the white shoulder-patch, which is not seen in the two females.

e′. ♂ ad. Deelfontein, Nov. 25, 1902.

A particoloured bird with black back, throat, and breast, but with white shoulder-patch, rump, and *abdomen*; outer tail-feather on each side white. The crown is dull slate-coloured mottled with black centres to the feathers.

f'. ♂ ad. Deelfontein, Nov. 24, 1902. "With nest and three eggs."

A dark grey bird with *ashy whitish abdomen*. It is in much worn plumage and therefore appears black in the centre of the back, and mottled with black on the under surface where the grey margins to the feathers have worn off. The shoulder-patch is ashy grey, inclining to dull whitish on the inner median coverts.

The most curious feature of this bird is that it has not white outer tail-feathers, but has the outermost rectrices tipped with black like those of a young bird! The eggs are pale blue, with faint lilac spots, dots, and streaks, clustering chiefly round the larger end, where they form a zone. Axis 0·9–1·0 inch, diam. 0·65.

g'. ♂ ad. Deelfontein, Dec. 22, 1902.

A light grey bird in terribly worn plumage, but with the outer tail-feathers pure white.

Anyone examining this useful series of Chats, which includes nestlings, moulting birds, and specimens obtained throughout the year, can scarcely wonder that Mr. Seebohm believed in the existence of two species, between which occurred an endless number of hybrids. I prefer, however, the conclusions of Colonels Butler and Feilden and Captain Savile Reid, after having tested their results by the present series.

The difficulty in admitting so many different stages in a single species once more forces itself upon our attention, notwithstanding the Deelfontein series. That the young birds pass from the first black plumage to a black dress with white shoulders and (white or black) abdomen seems certain. The head afterwards becomes a little greyer, then still more grey, then light pearly grey, and in its final stages the abdomen is either white or black. In the whole of this series the shoulder-patch is white and not ashy, and the outer tail-feathers are mostly tipped with black, not always completely, while for the bird to have two entirely white outer tail-feathers is a rare occurrence. This sequence of plumages is illustrated by the series in the British Museum, and, so far as I can see, the sequence is fairly complete. It embraces stages 1–7 in the essay of Colonels Butler and Feilden and Captain Reid. It is difficult to understand why a species, having attained to the beautiful plumage which the grey-headed black birds exhibit, should pass on to the pure grey dress as the above-named authors have declared to be the case. The Deelfontein collection has many specimens of the grey phase, but none which shew a transition from the black bird to the grey. On the contrary, there is a regular gradation, as we perceive by my remarks, from the black young bird through its first moult to the dark slaty grey and then to the pearly grey plumage.

The Damara-land bird must after all be separated from *S. monticola*, on account of its creamy-white or pure white crown, and it is decidedly remarkable that in Damara-land also occurs a parallel equivalent to the pearly grey form. This would seem to imply that the black-backed, white-headed, and ashy-whitish birds occur throughout Damara-land and that a state of things exists there parallel to the case of *S. monticola*.

The ashy-grey Chat is Le Traquet Montagnard, jeune âge, of Levaillant (vol. iv. pl. clxxxv. fig. 1). So far from being a young bird, it is certainly an adult. It is also *S. tephronota* of Gurney, Ibis, 1877, p. 343. Seebohm has catalogued this type as a female, but it is a very old *male* of the grey form. Another name for this species is *S. castor* Hartlaub, P. Z. S. 1865, p. 747 (figured by Blanford and Dresser, P. Z. S. 1874, pl. xxxviii. fig. 2).

The "Traquet Montagnard" of Levaillant (pl. clxxxiv. fig. 2), upon which the name of *S. monticola* was founded, was a young bird in black plumage. We have several specimens in the Museum which exactly match it, and the figure given by Levaillant as "Le moyen âge" (pl. clxxxv. fig. 2) is really that of the adult male of the grey-headed black-backed Chat. This is also the true *S. leucomelæna* of Burchell, which was discovered on the Asbestos Mountains near the Orange River.

for some reason or another. Seebohm restricted the range of this species to Damara-land and Benguela, but the Chat from that country must bear the name of *S. æquatorialis*, so far as I can see. It is also *S. albipileata* of Bocage. It is the bird figured by Blanford and Dresser under the name *S. leucomelæna* (P. Z. S. 1874, pl. xxxvii. figs. 1 & 2), but *S. griseiceps* of the same authors is identical with the true *S. monticola*, of which it is the adult stage.

Saxicola diluta of Blanford and Dresser holds the same position with regard to *S. æquatorialis* as *S. castor* holds to *S. monticola*.

On the subject of these Chats the reader should consult Finsch, Notes Leyden Museum, xxii. pp. 153–156 (1900). Until we get an adult male moulting from the black-backed stage (*S. monticola* or *S. leucomelæna*) into the grey stage (*S. castor* or *S. diluta*) I feel inclined to admit that there are four species of these Chats in South Africa.

[Found throughout the year and very common, both on the kopjes and the veldt. It was always seen singly or in pairs, never in flocks. Specimens were often taken in traps baited with meat. The nest was built in the rocks on the kopjes, also in holes in "sluit"-walls, and even in old blockhouses; three eggs were the usual number, but occasionally four were met with. It did not live well in captivity.]

77. Campicola pileata.

Saxicola pileata Sharpe, ed. Layard, pp. 238, 818 (1875–84); Seebohm, Cat. B. v. p. 397 (1881); Stark, Faun. S. Afr., Birds, ii. p. 196 (1901).

Campicola pileata Sharpe, Hand-l. B. iv. p. 180 (1903).

a. ♀ imm. Deelfontein, Feb. 8, 1902.
b, *c*. ♀ imm. et juv. Deelfontein, Feb. 12, 1902.
d. ♂ juv. Deelfontein, Feb. 28, 1902.
e. ♂ ad. „ March 7, 1902.
f. ♀ ad. „ April 3, 1902.
g, *h*. ♂ ad. „ May 6–15, 1902.
i. ♂ ad. „ June 11, 1902.
k. ♂ ad. „ Aug. 30, 1902.

l, m. ♂ ad. Deelfontein, Sept. 22, 1902.
n. ♀ ad. ,, Sept. 24, 1902.
o. ♂ ad.; *p.* ♀ juv. Deelfontein, Nov. 19, 1902.

The breeding-season commences in November, full-grown young birds having been obtained on the 19th of that month, and others at the end of February, which were doubtless a second brood. Some young have nearly completed their moult by the 8th and 12th of February.

Males and females are alike in plumage, and the only difference between the summer and winter dress consists in the somewhat brighter tints of the latter, the upper parts being more ashy and the rufous edges to the quills broader: these edgings become worn off in the breeding-season.

[Very common, frequenting rubbish-heaps, where it was always to be found feeding on insects. The actions resemble those of our English Robin.]

78. Acrocephalus bæticatus.

Acrocephalus bæticatus Sharpe, ed. Layard, p. 290 (1876); Seebohm, Cat. B. v. p. 106 (1881); Stark, Faun. S. Afr., Birds, ii. p. 91 (1901); Sharpe, Hand-l. B. iv. p. 189 (1903).

a–d. ♂ ♀ ad. Deelfontein, Feb. 12, 1902.
e. ♀ ad. ,, March 3, 1902. Feet olive-green; iris greyish hazel.
f. ♂. ,, Oct. 24, 1902.

The birds are moulting in February, but there is very little difference between the spring and autumn plumage, excepting that the latter is a little more rufescent.

[The Reed-Warbler generally arrived in January, and was found along the hedge-rows in the majority of the farms; it was fairly common.]

79. Cisticola subruficapilla.

Cisticola subruficapilla Sharpe, ed. Layard, pp. 266, 823 (1875–84); id. Cat. B. vii. p. 283 (1883); Stark, Faun. S. Afr., Birds, ii. p. 151 (1901); Sharpe, Hand-l. B. iv. p. 199 (1903).

a, b. ♂ ♀ ad. Deelfontein, March 14–25, 1902. Iris raw sienna; lower mandible heliotrope; feet brownish pink.

c. ♂ ad. Deelfontein, May 15, 1902.
d, *e*. ♀ ad. ,, Aug. 13, 1902.

[Found all the year round, but not very commonly, generally on the kopjes, but occasionally also on the veldt. It is usually met with in pairs, but in winter three or four may be seen together, often in company with other birds.]

80. SPILOPTILA OCULARIS.

Drymœca ocularis Smith; Sharpe, ed. Layard, p. 256 (1876).

Spiloptila ocularis Sharpe, Cat. B. Brit. Mus. vii. p. 232 (1883); Stark, Faun. S. Afr., Birds, ii. p. 138 (1901); Sharpe, Hand-l. B. iv. p. 201 (1903).

a, *b*. ♂ ad.; *c*, *d*. ♂ ♀ juv. Deelfontein, Jan. 7–31, 1901.
e. ♀ juv. Deelfontein, Jan. 9, 1901.
f, *g*. ♀ ad. et ♀ juv. Deelfontein, Feb. 1 & 2, 1901. Iris light hazel.
h. ♂ ad. Deelfontein, Feb. 27, 1902.
i, *k*. ♂ ♀ ad. ,, March 25, 1902.
l. ♂ ad. ,, March 23, 1902. Iris light hazel; bill black; feet light brown.
m, *n*. ♂ ad. ,, Aug. 25, 1902.
o. ♂ ad. ,, Sept. 30, 1902.
p, *q*. ♂ pull. ,, Oct. 28, 1902. Iris greyish brown; base of bill lilac; feet brownish flesh-coloured.

It is very interesting to find that the young male and young female (if correctly sexed) both possess a black collar in the nestling plumage, though in one female obtained on the 1st of February the black collar is absent or barely represented by a dusky shade.

According to the nestlings, this species must breed from October to February, and even the male shot on the 30th of September has the plumage decidedly worn and is apparently a breeding bird; this specimen has remains of black spots on the throat like the Hopetown specimens referred to in the Catalogue (p. 233), which I believed to be in the winter dress of the species; but from the specimens brought home by Messrs. Seimund and Grant it is evident that there is very little difference between the summer and the winter plumage.

As a rule, the more chestnut face of the male is well marked when compared with the more cinnamon face of the female; and young birds of both sexes have the lighter-coloured face of the old hen bird. Only one female specimen in the Deelfontein collection has a chestnut face, and possibly this may have been wrongly sexed.

I find that the specimens from Mashona-land are not the same as the birds from the Cape Colony. They are much paler and more fulvescent above and with scarcely any grey on the crown or neck, while the rufous eyebrow and face is of a light vinous cinnamon; the sides of the body, flanks, and thighs, as well as the under tail-coverts, are light sandy buff, not streaked as in the typical *S. ocularis*. This pale race, specimens of which are in the Museum from the Malopo and Hart Rivers, collected by J. S. Jameson, seems to extend across to Great Namaqua-land, while some of the Transvaal examples appear to be somewhat intermediate. I have named this pale form *S. malopensis* [*cf.* Bull. B. O. C. xiii. p. 80].

[Found all the year round and very common; it is mostly met with on the veldt, but sometimes on the kopjes. The Boer name is "Tentenki," a term used for most of the small Warblers.]

81. EURYPTILA SUBCINNAMOMEA.

Cisticola subcinnamomea Sharpe, ed. Layard, p. 273 (1876).

Euryptila subcinnamomea Sharpe, Cat. B. vii. p. 116 (1883); Stark, Faun. S. Afr., Birds, ii. p. 97 (1901); id. Hand-l. B. iv. p. 204 (1903).

a–c. ♂ ♀ ad.	Deelfontein,	Feb. 19 & 20, 1901.
d. ♀ ad.	,,	March 14, 1902. Shot on a kopje.
e, f. ♂ ♀ ad.	,,	Oct. 7, 1902. Iris brownish grey.
g. ♂.	,,	Dec. 8, 1902. With nest and three eggs.

This is a very rare species in collections, and I was glad to receive the first specimens which, for want of a gun, Mr. Seimund procured with a catapult. In the second collection are the nest and eggs procured on the 8th of December. The latter are pale bluish white with numerous dots and small spots of lilac distributed generally over the egg, but with the larger dots most visible near the big end. Axis 0·75 inch, diam. 0·55.

The birds procured in October are still in full winter plumage, and are much more ashy on the throat and chest. The ashy margins become much abraded during the nesting-period, and the plumage becomes thereby darker. In February the moult is nearly completed.

[We called this the "Kopje Bird," but the Dutch name for it and for several of the small Warblers was "Tentenki." It was found with us all the year round, and was fairly common, being generally seen in pairs, but occasionally in family-parties. It is very quick in its ways, and hops in and out among the large stones in search of its food, which consists of insects. The nest was found in the grass at the foot of a big rock on a kopje, and was composed chiefly of spiders' webs. The rock was surrounded by thick bush. The eggs are two or three, sometimes four, in number.]

82. DRYODROMAS ICTEROPYGIALIS.

Dryodromas icteropygialis (Lafr.); Sharpe, Cat. B. vii. p. 148 (1883); id. Hand-l. B. iv. p. 225 (1903).

Chlorodyta icteropygialis Shelley, B. Afr. i. p. 72 (1896); Stark, Faun. S. Afr., Birds, ii. p. 127 (1901).

a. ♂ juv. Deelfontein, Jan. 27, 1901.

b. ♀ ad. ,, Sept. 25, 1902. Iris yellow.

The specimen obtained in January is a young bird with a yellow base to the bill and bright yellow under tail-coverts. There is very little of the isabelline tinge on the breast, as in the other specimens in the Museum, and I imagine that this is a sign of winter plumage.

83. SYLVIELLA RUFESCENS.

Sylviella rufescens Sharpe, ed. Layard, pp. 303, 829 (1875–84); id. Cat. B. vii. p. 153 (1883); Stark, Faun. S. Afr., Birds, ii. p. 115 (1901); Sharpe, Hand-l. B. iv. p. 226 (1903).

a. ♂ ad. Deelfontein, May 23, 1902.
b. ♀ ad. ,, July 3, 1902.
c–e. ♂ ♀ ad. ,, Aug. 7–13, 1902. Iris umber.

This species seems to me to fade a good deal in colour, one specimen killed on the 12th of August, when the nesting-season was probably approaching, being much paler than the other three—the difference being apparently due to the slightly more worn plumage.

[Although found with us all the year round, this species was not very common; it was met with in the thick bushes of dog-thorn or black-thorn.]

84. EREMOMELA FLAVIVENTRIS.

Eremomela flaviventris Sharpe, ed. Layard, pp. 297, 827 (1875–84); id. Cat. B. vii. p. 159 (1883); Stark, Faun. S. Afr., Birds, ii. p. 106 (1901); Sharpe, Hand-l. B. iv. p. 229 (1903).

a–f. ♂ ad. et ♂ ♀ juv. Deelfontein, Jan. 3–27, 1901.
g. ♂ ad. Deelfontein, Feb. 12, 1902.
h, i. ♂ ad. ,, May 15 & 31, 1902.
k. ♀ ad. ,, June 10, 1902.
l, m. Ad. ,, Aug. 2 & 13, 1902.
n. ♀ ad. ,, May 20, 1902.
o, p. ♂ ♀ ad. ,, Sept. 5 & 22, 1902.

The young are just like the old birds, but are a little paler and more sulphur-yellow on the abdomen. Nestlings were procured in January, when the old birds were in moult, as also were the specimens shot in February. In May the birds have assumed their full winter plumage, which is much darker than the breeding-dress, and the throat and chest are strongly shaded with isabelline; the yellow on the abdomen is much brighter and has a tinge of saffron. By September the throat and chest have become greyer and more ashy and the yellow of the abdomen much paler.

I think that the Damara-land form of *E. flaviventris* should be separated as *E. damarensis*. It is a much paler bird, with light sulphur-yellow abdomen, lighter and pale clay-brown above, especially on the head, with a distinguishable whitish eyebrow and whitish under wing-coverts.

The other yellow-bellied *Eremomela*, which I have called *E. polioxantha*, seems to me to be quite a distinct species. Besides the typical specimen from Swazi-land, the Museum has another from Mashona-land procured by the late J. S. Jameson, and also one from Nyasa-land, presented by General Manning.

[A resident all the year round, though more plentiful at some seasons than others; in winter it was noticed in small parties of five or six. It builds a very small nest in the side of a black-thorn bush.]

85. Prinia maculosa.

Drymæca maculosa (Bodd.); Sharpe, ed. Layard, pp. 259, 822 (1875–84); id. Cat. B. vii. p. 189 (1883); Stark, Faun. S. Afr., Birds, ii. p. 133 (1901); Sharpe, Hand-l. B. iv. p. 240 (1903).

a–d. ♂ ♀ ad.	Deelfontein,	Feb. 12–27, 1902.
e, f. ♂ ♀ ad.	,,	March 14, 1902.
g, h. ♂ ♀ ad.	,,	April 8, 1902.
i. ♂ ad.	,,	May 15, 1902.
k. ♂ ad.	,,	Aug. 2, 1902.

There is no difference in the colour of the sexes, and an adult female (April 8) in winter plumage measures:—Total length 5·2 inches, culmen 0·5, wing 2·0, tail 2·85, tarsus 0·8. A male (Aug. 2) has the wing 2·0 and the tail 3·0, but beyond this slight predominance there is little difference in dimensions. The young are less broadly streaked below than the old birds, and moult into their full winter plumage in February. At that season the yellow on the under surface is rather brighter than in the breeding-season.

[Fairly common, found in the long grass in damp places, though occasionally seen on the sides of the kopjes.]

86. Fiscus collaris.

Lanius collaris L.; Sharpe, ed. Layard, pp. 371, 841 (1875–84); Gadow, Cat. B. viii. p. 255 (1883); Stark, Faun. S. Afr., Birds, ii. p. 6 (1901); Reichenow, Vög. Afrikas, ii. p. 607 (1903).

Fiscus collaris Sharpe, Hand-l. B. iv. p. 284 (1903).

a, b. ♂ pull.	Deelfontein,	Jan. 23, 24, 1901.
c, d. ♂ ♀ juv.	,,	Feb. 8–11, 1901.
e, f. ♀ juv.	,,	Feb. 22 & 28, 1902.
g. ♂ juv.	,,	March 1, 1902.
h–l. ♂ ♀ ad.	,,	May 5–27, 1902. Eyes dark hazel; bill and legs black.
m. ♂ ad.	,,	July 3, 1902.
n. ♀ ad.	,,	Aug. 25, 1902.
o. ♀ ad.	,,	Sept. 23, 1902.
p, q. ♂ ♀ ad.	,,	Oct. 24–27, 1902.

Young birds in barred plumage were obtained in January and February, and in March the specimens were in full moult. The frecklings on the under surface seem to exist even in the plumage of fully moulted birds, which become either black or brownish black above, but the pure white under surface appears to be gained by very old individuals only. One or two specimens have indications of white plumes on the lores. The two eggs obtained on the 19th of December are clouded after the usual manner of Shrikes' eggs, and are of an olive stone-colour, with blotches and spots of pale purplish and light brown. Axis 0·8 inch, diam. 0·6.

[A very common bird, generally found sitting on the higher bushes on the watch for its prey, which consists chiefly of grasshoppers; young birds and insects of various kinds were found pinned on thorns. This Shrike is met with all the year round on the kopjes and on the veldt. The nest is generally built in thorn-bushes; some are very hard to reach, while others are placed at the end of the longest branch. Eggs, three or four.]

87. PELICINIUS GUTTURALIS.

Turdus gutturalis P. L. S. Müll. Natursyst. Anhang, p. 144 (1776).

Laniarius gutturalis Sharpe, ed. Layard, pp. 385, 842 (1875–84); Stark, Faun. S. Afr., Birds, ii. p. 33 (1901).

Pelicinius zeylonus Reichenow, Vög. Afrikas, ii. p. 568 (1903).

Pelicinius gutturalis Sharpe, Hand-l. B. iv. p. 292 (1903).

a. ♀ ad. Deelfontein, Feb. 12, 1902.
b. ♀ imm. ,, April 3, 1902.
c, d. ♂ ♀ ad. ,, May 19, 1902.
e. ♂ ad. ,, July 3, 1902.
f. ♀ ad. ,, July 23, 1902.
g. ♂ ad. ,, Aug. 7, 1902.
h. ♂ ad. ,, Nov. 8, 1902.

The birds in winter dress are decidedly brighter than the breeding birds, as the plumage gets worn and the colours fade. The males and females do not differ: the hen bird killed in April was moulting. A young female obtained on the 3rd of April had nearly completed its moult and had begun to put on the black collar.

[The "Buckmeeary" Bush-Shrike was very common and found all the year round. The nests were generally in blackthorn bushes, and the eggs three in number.]

88. Pentheres afer.

Parus afer, pt., Sharpe, ed. Layard, pp. 329, 835 (1875–84); Gadow, Cat. B. viii. p. 39 (1883); Stark, Faun. S. Afr., Birds, i. p. 305 (1900); Shelley, B. Afr. ii. p. 241 (1900).

Pentheres afer Sharpe, Hand-l. B. iv. p. 332 (1903).

a, b. ♂ ad. Deelfontein, Feb. 9–12, 1902.
c, d. ♂ ♀ ad. ,, March 5–19, 1902.
e–g. ♂ ♀ ad. ,, Aug. 7, 1902.
h, i. ♂ ♀ ad. ,, Sept. 5, 1902.
k–p. ♂ ♀ ad. et juv. Deelfontein, Nov. 30, 1902.
q, r. ♂ ♀ ad. ,, Dec. 22, 1902.

Captain Shelley, writing before the advent of this Deelfontein series, makes out three races of *Parus afer*, and must apparently have considered the specimen from Cape Town (*Butler*) to be a stage of plumage of *P. afer*, which is really *P. cinerascens* (V.) in Shelley's book. He had only two of the true *P. afer* for comparison. His *P. intermedius* cannot be separated from *P. cinerascens*, but his *P. parvirostris* from Mashona-land certainly does seem to have a smaller bill and is somewhat purer bluish grey in tint.

No one since Layard's time (*cf.* B. S. Afr. pp. 112, 113, 1867) seems to have recognised that there are two distinct forms of Great Tit in South Africa, a grey species and a brown-backed species. The series brought by Messrs. Seimund and Grant shews that the brown back is constant throughout the year, perhaps a little greyer in the winter plumage, but never blue-grey like that of the other form. The young birds also have brown backs and dull blackish heads. The brown-backed bird is the true *P. afer* of Gmelin, founded on the "Black-breasted Titmouse" of Latham, and the grey bird is *Parus cinerascens* of Vieillot, founded on the *Mésange gris à joue blanche* of Levaillant (Ois. d'Afr. iii. pl. cxxxix. fig. 2, err. pro fig. 1).

[This Tit was met with all the year round both on the veldt and the kopjes, but mostly on the former; it was not very common. It was generally seen in little parties, in company with other small birds. We found a nest with young, but they were destroyed by some predaceous beast.]

89. ANTHOSCOPUS MINUTUS. (Pl. VIII. fig. 1.)

Anthoscopus capensis (Gm.); Sharpe, ed. Layard, pp. 327, 804 (1875–84), pt.

Ægithalus capensis, pt., Stark, Faun. S. Afr., Birds, i. p. 310 (1900); Shelley, B. Afr. ii. p. 246 (1900); Sharpe, Bull. B. O. C. xiii. p. 59 (1903).

Anthoscopus minutus Sharpe, Hand-l. B. iv. p. 310 (1903).

a, b. ♂ ♀ ad. Deelfontein, Aug. 9, 1902.

c, d. ♂; *e.* ♀ ad. „ Sept. 3–8, 1902.

The specific name *capensis* dates from Gmelin (S. N. i. p. 1011), whose *Parus capensis* is founded on the "Petite Mésange du Cap de Bonne Espérance" of Sonnerat (Voy. Indes, ii. p. 206, pl. 115). It is difficult to understand how the plate could ever have been associated with *Anthoscopus capensis*, auct. The bird is described and figured as ashy grey with white edgings to the wing-feathers and the tail white below. If the plate really represents any actual species, it comes nearest to *Stenostira scita,* but it is a figure which is unrecognisable and the name *capensis* should be dropped.

The next figure of a Cape Penduline Tit is the "Figuier Becque-Fleur" in Levaillant's 'Oiseaux d'Afrique,' iii. pl. 134. figs. 1, 2. The upper figure in Levaillant's plate is copied by Nodder in Shaw's 'Naturalist's Miscellany' (vol. xxiii. pl. 997), and Shaw calls the bird, whatever it may be, *Sylvia minuta*. Levaillant describes his bird as being above grey slightly shaded with greenish, and below as having the throat whitish, with the fore-neck, breast, and remainder of the under surface very faint yellow (*un jaune très-foible*). This is the *Sylvia minuta* of Shaw. Levaillant's locality for his "Figuier" was near Oliphant's River, and this seems to be the species of which several specimens have been recently sent to the British Museum from Deelfontein. We have also in the Museum specimens from Port Elizabeth and Kingwilliamstown, so that this would appear to be the Penduline Tit of the Cape Colony, whereas the other species, *Anthoscopus capensis* auct. (but not of Gmelin), occurs from Potchefstroom and Rustenburg in the Eastern Transvaal to Mashona-land and Damara-land, from all of which places the Museum has specimens.

Of the names given by Dr. Gadow in his synonymy of *Ægithalus capensis*, the earliest (*Parus capensis*) is untenable, as shown above.

Sylvia minuta of Shaw is founded on Levaillant's plate, as is also *Parus fuscus* of Vieillot (N. Dict. d'Hist. Nat. xx. p. 309). This name could never be adopted, as the head, throat, and under parts are described as "noirs"!

Ægithalus smithi was named by Jardine and Selby in October, 1831, from a specimen procured by Sir (then Dr.) Andrew Smith. The example in the British Museum is doubtless the actual type of *Æ. smithi*, and both the specimen and the figure shew that this is the sulphur-breasted species, which can therefore be called *Anthoscopus smithi* (Pl. VIII. fig. 2). This is the *Ægithalus capensis* of Swainson (Classif. B. ii. p. 246, 1837), who refers to the plate published by Jardine and Selby. *Gryllivora capensis* of Swainson, quoted by Dr. Gadow in his synonymy, is a Saxicoline bird. *A. pensilis* Hartl. (ex Licht.) is a *nomen nudum*.

The two species may be diagnosed as follows:—

a. Breast darker and dull ochreous; upper surface dark ashy, dark olivaceous on the rump and upper tail-coverts; on the crown a slight indication of dusky bases to the feathers	*minutus*
b. Breast light sulphur-yellow, slightly darkening in older birds, but always distinctly yellow; light grey on the head, verging gradually into light olive-greenish, becoming more saffron-yellow on the rump and upper tail-coverts	*smithi.*

[A few seen at different times, going in small parties through the tall bush on the veldt. The nest is well known, and is made from the cotton-seed-pods of the Karoo bush; it is hung in very exposed situations.]

90. ZOSTEROPS SUNDEVALLI.

Zosterops pallida (nec Swains.); Sharpe, ed. Layard, pp. 324, 824 (1875–84); id. Cat. B. ix. p. 160 (1884); Stark, Faun. S. Afr., Birds, i. p. 302 (1900); Shelley, B. Africa, ii. p. 187, pl. vii. fig. 2 (1900).

Zosterops sundevalli Hartl.; Finsch, Tierr., Lief. 15, p. 12 (1901).

a, b. ♂ ad. Deelfontein, Aug. 13, 1902.

If Swainson's name of *Z. pallida* is not to be employed for this species, and the description does not agree with it very well, then we must adopt that of *Z. sundevalli*, as set forth by Dr. Finsch.

91. NECTARINIA FAMOSA.

Nectarinia famosa (L.); Sharpe, ed. Layard, pp. 306, 830 (1875–84); Gadow, Cat. B. ix. p. 5 (1884); Shelley, B. Africa, ii. p. 19 (1900); Stark, Faun. S. Afr., Birds, i. p. 276 (1900).

a. ♂ ad. Deelfontein, July 31, 1902.

b, c, d. ♂ ad.; *e, f.* ♀ ad. Deelfontein, Aug. 2–13, 1902.

[This Sun-bird has a very quick flight. It was fairly common in the month of August, being found among the dog-wood bushes. It feeds on small insects up to the size of a house-fly.]

92. Cinnyris fusca.

Cinnyris fusca (V.); Sharpe, ed. Layard, pp. 317, 832 (1875–84); Gadow, Cat. B. ix. p. 75 (1884); Stark, Faun. S. Afr., Birds, i. p. 290 (1900).

Elæocerthia fusca Shelley, B. Africa, ii. p. 115 (1900).

a. ♂ imm.; *b.* ♂ juv. Deelfontein, Feb. 10–28, 1901.
c. ♂ imm.; *d.* ♀ ad. „ March 1–4, 1902.
e–h. ♂ ad. et imm.; *i.* ♀ ad. Deelfontein, May 20–31, 1902.
k–r. ♂ ad. et imm.; *s.* ♀ ad. Deelfontein, Aug. 2–13, 1902.
t. ♂ ad. Deelfontein, Oct. 8, 1902.

The young male, shot by Seimund with a catapult in February 1901, resembles the adult female, but is altogether more tinged with yellow on the head, cheeks, and under surface of the body. During the first moult of the young males in February and March, it would seem that the throat and centre of the body are the first parts to assume the adult plumage, and the variation in the orange or scarlet pectoral tufts is very marked. If there were a non-breeding dress in this species, we should expect to find it in specimens killed in May, which is the autumn season in South Africa, but we have fully plumaged males emerging from the brown stage, and one young male in the latter plumage, but with a black metallic-glossed throat. In August again the same plumages are met with, and the birds are moulting. It would look, therefore, as if the birds bred indiscriminately at different seasons of the year.

[Fairly common with us; found in the dog-wood bushes.]

93. Cinnyris chalybea.

Cinnyris chalybeus (L.); Sharpe, ed. Layard, pp. 314, 831 (1875–84); Gadow, Cat. B. ix. p. 37 (1884); Shelley, B. Africa, ii. p. 76 (1900); Stark, Faun. S. Afr., Birds, i. p. 284 (1900).

a. ♂ imm. Deelfontein, Jan. 23, 1901.
b. ♀ ad. „ Feb. 28, 1902.
c, d. ♂ ad. „ March 23, 25, 1902.

e–h. ♂ ad. Deelfontein, May 20–24, 1902.
i. ♂ ad. ,, Aug. 13, 1902.
k. ♂ ad. ,, Sept. 22, 1902.
l. ♂ ad. ,, Oct. 10, 1902.

This interesting series seems to prove that *C. chalybea* has no distinct non-breeding plumage, as the October specimen would be in breeding-dress, and after the nesting-season we find the bird in full plumage again in March, and this perfect livery is met with throughout May and up to August.

Young males commence with a hen-like plumage, as proved by one shot by Capt. Shelley himself in January at Ceres in Cape Colony. In February they begin to moult, and are full-plumaged in March. There are apparently more broods than one in the year, as a September bird is also moulting and emerging from the brown plumage into that of the adult, the scarlet band being paler than in most of the adults, so that it is evident that the young birds, after their first moult, are not so brightly coloured.

[This bird is very common, and is found here nearly all the year round, being especially fond of frequenting the dogwood bushes, both on the kopjes and on the veldt.]

94. VIDUA PRINCIPALIS.

Vidua principalis L.; Sharpe, ed. Layard, pp. 453, 848 (1875–84); id. Cat. B. xiii. p. 203 (1890); Stark, Faun. S. Afr., Birds, i. p. 145 (1900).

a. ♂ ad. Deelfontein, May 30, 1902.

95. PYROMELÆNA ORYX.

Pyromelana oryx (L.); Sharpe, ed. Layard's B. S. Afr. pp. 462, 849 (1884); id. Cat. B. xiii. p. 231 (1890); Stark, Faun. S. Afr., Birds, i. p. 126 (1900).

a. ♀ ad. Deelfontein, July 3, 1902.
b, c. ♂ ad. ,, Nov. 19, 1902.

The eggs in all the clutches are light blue, and are not unlike those of our English Hedge-Sparrow. Axis 0·75–0·85 inch, diam. 0·5–0 6. The nests were placed in the reeds over water.

[This Bishop-bird was not common and was very local, being generally found near reed-beds and wheat-fields. It seems to finish its nest after the first egg has been laid, as this could always be seen through the nest; but when the full complement of three or four eggs had been deposited it was impossible to see them, the lining of the nest having been completed.]

96. HYPHANTORNIS VELATUS.

Hyphantornis velatus (V.); Sharpe, ed. Layard, pp. 439, 847 (1875–84); id. Cat. B. xiii. p. 464 (1890); Stark, Faun. S. Afr., Birds, i. p. 58 (1900).

a, b. ♂ ad.; *c, d.* ♂ hiem. Deelfontein, March 1, 2, 25, 1902.

e–g. ♂ hiem.; *h–m.* ♀ ad. Deelfontein, April 11–25, 1902.

n. ♂ hiem. Deelfontein, June 13, 1902.

o, p. ♂ hiem. ,, July 20, 1902.

q–s. ♂ hiem.; *t–b′.* ♂ æstiv. Deelfontein, Oct. 24–27, 1902.

The birds obtained in October are apparently all males in full breeding-plumage, with the exception of two late individuals procured on the 24th of that month, which are still in winter plumage. By the 1st of March the males are in full moult and are losing their yellow colour. When in winter dress the males and females are almost exactly alike, but the males can generally be distinguished by a tinge of saffron-yellow on the fore-neck. One male bird killed on the 25th of April shews a few black feathers on the face and chin, probably the last remains of the moult of the black face into the winter plumage.

Among the males in full dress in October there are two which have the brown quills of the winter plumage not yet shed. It is evident that in putting on the full nuptial dress the quills are moulted as well as the body-feathers.

The three eggs have the ground-colour greenish blue, thickly spotted and smudged with dull reddish marks, some of the underlying spots being purplish grey, but very indistinct. Axis 0·9 inch, diam. 0·6.

[This Weaver-bird was very common and occurred all the year round. It comes to roost in large numbers in the fruit-groves round the farms, and is very destructive to fruit during the season, so that the farmers destroy all the nests and eggs that come within their ken. The bright yellow breeding-plumage is not assumed by a complete moult all over the body, but by a gradual change of colour in the feathers, some of the quills and plumes of the head being shed. The nests are mostly placed on willow-trees overhanging the dams, some within a few feet of the water and others at a height of twenty feet, and we have also found nests built on reeds.

The colour of the eye is brighter red in birds kept in captivity than in those shot in a wild state.]

97. Estrilda astrilda.

Estrilda astrilda (L.); Sharpe, ed. Layard, pp. 470, 849 (1875–84); id. Cat. B. xiii. p. 391 (1890); Stark, Faun. S. Afr., Birds, i. p. 98 (1900).

a, *b*. ♂ ad.	Deelfontein,	Feb. 11–23, 1902.
c. ♀ ad.	,,	March 2, 1902.
d. ♂ ad.	,,	May 20, 1902.
e. ♂; *f*, *g*. ♀ ad.	,,	Aug. 5–13, 1902.
h. ♀ ad.	,,	Nov. 18, 1902. With nest and five eggs.

These examples seem to be typical *E. astrilda*, but the female shot from the nest is so pale as to be scarcely distinguishable from Damara specimens (*E. damarensis* Reichenow), which otherwise seems to me to belong to a separable form. In the case of the female bird in the present collection, I would suggest that the paleness of the plumage is due to wear and tear. A nest with five eggs was found in long grass at the bottom of a thorn-bush. The eggs were pure white. Axis 0·55 inch, diam. 0·45.

[Very common, and always found in flocks, even during the nesting-season, but most likely these latter companies consisted of non-breeding birds. The pair always sit very close to the nest, and even if shot at and missed only go a short distance away.]

98. AMADINA ERYTHROCEPHALA.

Amadina erythrocephala (Linn.); Sharpe, ed. Layard, pp. 467, 849 (1875–84); id. Cat. B. xiii. p. 290 (1890); Stark, Faun. S. Afr., Birds, i. p. 118 (1900).

a, b. ♂ ad. Deelfontein, May 15, 1903.

c–e. ♂ ad. et imm.; *f–h.* ♀ ad. et imm. Deelfontein, July 3, 1903.

Young males resemble the old females, but have more of a ruddy tinge on the head, and the white tips to the wing-feathers are larger, with a more distinct subterminal line of black. The sides of the face and upper throat are dull brick-red, and the bars on the breast are thickly distributed right up to the red colour on the throat, with no intervening shade of ashy on the lower throat.

[Very local and by no means plentiful. It generally occupies an old Sparrow's nest which it re-lines. We often used to catch the birds at night by placing a hand over the entrance of the nest. The eggs were generally three in number.]

99. SERINUS FLAVIVENTRIS.

Crithagra flaviventris (Sw.); Sharpe, ed. Layard, p. 485 (1875–84).

Crithagra butyracea Sharpe, ed. Layard, pp. 487, 850 (1875–84).

Serinus flaviventris (Sw.); Sharpe, Cat. B. xii. p. 353 (1887); Stark, Faun. S. Afr., Birds, i. p. 170 (1900); Shelley, B. Afr. iii. p. 199 (1902).

a. ♂ imm. Deelfontein, March 5, 1902.
b. ♂ ad. ,, March 10, 1902.
c. ♂ imm. ,, April 30, 1902.
d. ♂ ad. ,, May 23, 1902.
e, f. ♂ ♀ ad. ,, June 14, 1902.
g, h. ♂ ad.; *i, k.* ♀ ad. Deelfontein, Aug. 7, 1902.
l. ♀ ad. Deelfontein, Nov. 4, 1902.

Young males in their first full yellow plumage are rather smaller than the adult birds, and may be easily recognised by the dusky streaks on the chest and flanks. These features I did not record in the 'Catalogue.' A young female after the first moult, in winter plumage, is much more isabelline on the under surface, and verges towards a tawny shade on the lower flanks.

The four eggs are bluish white with a few scattered spots and short irregular lines of black, mostly at the larger end. Axis 0·6 inch, diam. 0·55.

[Very common, generally seen in small parties of five or six, even during the nesting-season. They may be obseved drinking at the small springs on the kopjes at all hours of the day. The nest is generally built on the top of a veldt bush; it is lined with the wool from the seeds of the Karoo bush.]

100. SERINUS ALBIGULARIS.

Crithagra albogularis (Smith); Sharpe, ed. Layard, p. 485 (1875–84).

Serinus albigularis Sharpe, Cat. B. xii. p. 360 (1890); Stark, Faun. S. Afr., Birds, i. p. 174 (1900); Shelley, B. Afr. iii. p. 223 (1902).

a. ♂ juv. Deelfontein, Feb. 1, 1901.

b. ♀ ad. „ April 1, 1902.

c, *d*, *e*. ♂ ad. „ May 15, 31, 1902.

f. ♂ ad.; *g*, *h*. ♀ ad. Deelfontein, Aug. 2, 13, 22, 1902.

My remark (Cat. B. xii. p. 360) as to the spots on the throat being a sign of the female bird goes for nothing; in fact, there are more distinct spots in the male than in the female. A young male is much more broadly and distinctly streaked on the upper surface, and has the under surface more isabelline, with dusky brown streaks on the chest and sides.

101. PASSER ARCUATUS.

Passer arcuatus (Gm.); Sharpe, ed. Layard, pp. 479, 850 (1875–84); id. Cat. B. xii. p. 333 (1890); Stark, Faun. S. Afr., Birds, i. p. 160 (1900); Shelley, B. Afr. iii. p. 248 (1902).

a, *b*. pull.; *c*. ♂ juv. Deelfontein, Nov. 8, 22, 1902.

d. ♀ ad.; *e*. ♂ juv.; *f*, *g*. ♂ ad. Deelfontein, Jan. 24, 27, 1901.

h. ♂ imm.; *i.* ♀ ad. Deelfontein, Feb. 3, 1901.

k. ♂ ad. Deelfontein, Feb. 12, 1902.

l. ♂ juv.; *m–o.* ♂ ad.; *p–s.* ♀ ad. Deelfontein, March 1–28, 1902.

t. ♂ ad. Deelfontein, April 11, 1902.

u, v. ♂ ♀ ad. ,, May 15, 1902.

The moult takes place in January and February, and the new winter-plumage is shaded over by the ashy-brown edges to the feathers, which seem to be cast, after the manner of Sparrows, on the approach of the nesting-season. Nestlings were obtained in November, January, and March. Between the nestling males and females there is very little difference at first, but the darker throat of the male soon becomes apparent, and the rufous colour is a little duller.

In the Deelfontein series the adult females have the head ashy grey, not "blackish" as I have stated in the 'Catalogue'; but there are some specimens in the Museum which have dusky crowns, and it is just possible that the birds are darker in the breeding-season and moult into a greyer and more mealy plumage in the winter. Unfortunately we have no adult female in breeding-plumage in the Deelfontein collection.

The collectors brought home ten clutches of eggs of this Sparrow, which go through all the usual variations of those of the genus *Passer*.

[The "Mossie" is very common, and is found in large numbers round the farms, especially at evening-time. Young birds are found as early as October, and large quantities of young birds and eggs are destroyed by the Boers, as the Sparrows play havoc with the fruit and cereal crops. Their habits are like those of the English Sparrow, and the nest, which is very large, is built of every kind of rubbish, and is to be found not only on houses, but in trees and bushes. The eggs are generally two or three, but we found as many as six.]

102. ALARIO ALARIO.

Alario alario (L.); Bp. Consp. i. p. 519; Sharpe, ed.

Layard, p. 474 (1875–84), pt.; id. Cat. B. xii. p. 347 (1890); Stark, Faun. S. Afr., Birds, i. p. 179 (1900).

Serinus alario Shelley, B. Afr. iii. p. 213 (1902).

a. ♂ juv. Deelfontein, Feb. 15, 1902.

b–i. ♂ ad. et imm.; *k–q.* ♀ ad. et imm. Deelfontein, March 1, 1902.

r. ♂ ad. Deelfontein, April 11, 1902.

s. ♂ ad. „ June 14, 1902.

I expressed the idea in the 'Catalogue of Birds' (*l. c.*) that black-breasted males with the white throat might be winter-plumaged individuals, but I am now inclined to modify my opinion, for the series brought by Messrs. Seimund and Grant contains adult birds in winter plumage shot in April and June, and these have perfectly black throats and chests. The only specimen of the white-throated (supposed winter-plumaged) birds that bears a date is one shot by Andersson in June, so that the notion that the white throat and white eyebrow are signs of winter dress must be erroneous, and I am driven to the conclusion that there are two species, one with a black head and throat and no white eyebrow, and the other with a white throat and eyebrow, which I have called *Alario leucolæma* (Bull. B. O. C. xiii. p. 80; type in Brit. Mus. ex Great Namaqualand: *C. J. Andersson*).

This would be quite clear to me were it not for the presence, in the Deelfontein series procured in March, of a single bird with a white chin and white eyebrow, which I cannot account for, unless there is some crossing of the two forms. Seimund tells me that he saw only two white-browed birds during the whole of his stay in South Africa. I then thought that the males in their second year might have a white throat before getting a perfectly black one; but nestling males are moulting directly into the black throat of the adult male, so there is evidently some explanation yet required concerning these white-throated birds.

Both males and females are streaked when young, and the female moults into the plumage of the adult bird, but more than one of the hens has the throat hoary blackish concealed by the brown shade which pervades the under parts.

[Very common with us and found everywhere, both on the veldt and on the kopjes. It is generally seen in small flocks of five or six individuals even in the breeding-season, and is constantly uttering a twittering note when flying. The nest is found at the base of the kopjes, and is generally placed on the top of a small bush, and lined with wool from Karoo-bush seeds.]

103. Fringillaria media, subsp. nov.

Fringillaria capensis (pt., nec L.); Sharpe, ed. Layard, pp. 489, 851 (1875-84); id. Cat. B. xii. p. 565 (1888); Stark, Faun. S. Afr., Birds, i. p. 187 (1900); Shelley, B. Afr. iii. p. 156 (1902).

a, b. ♂ ad.; *c.* ♀ ad. Deelfontein, Jan. 8, 1901.

d, e. ♂ ad. Deelfontein, Feb. 28, 1902. Bill slate-coloured; feet dark horn-coloured; iris hazel.

f, g. ♂ ad.; *h.* ♀ ad. Deelfontein, March 2, 13, 24, 1902.

i. ♂ ad. Deelfontein, April 26, 1902.
k. ♀ ad. „ May 20, 1902. Bill and feet black; iris dark hazel.
l. ♂ ad. „ Oct. 25, 1902.
m. ♀ ad. „ Nov. 19, 1902. With nest.

The series collected by our two naturalists is very interesting, as it seems to me that the specimens do not belong absolutely to *F. capensis* with its white throat, white eyebrow and facial streak, and white under tail-coverts, or to *F. reidi* of Shelley (B. Africa, iii. p. 158) from Natal and Eastern Transvaal, where the throat, eyebrow, facial streak, and under surface of the body are sandy buff and the chest more ashy. The Deelfontein birds are intermediate: the throat and eyebrow are not white as in *F. capensis*, but are light sandy buff, not so deep in tint as in *F. reidi*; the same applies to the under tail-coverts. I think, therefore, that we may apply the name of *F. media* to this intermediate form.

F. capensis.—Cape Town, N. to Great Namaqua-land (Tjobis).

F. media.—Mossel Bay, Paarl (*G. E. Shelley*); Deelfontein (*Seimund and Grant*).

F. reidi.—Natal to Transvaal.

As to Potchefstroom specimens, it is very difficult to decide whether they are *F. media* or *F. reidi.*

The three eggs are of a pale greenish blue, plentifully sprinkled with reddish brown and pale purplish grey, seldom forming a small blotch. Axis 0·75 inch, diam. 0·6.

[This Bunting is found all the year round, and is very common, but does not go in flocks. Its food consists of seeds and insects. The nest is built in the top of a clump of coarse grass on the veldt or on a kopje; it is never more than a foot or a foot and a half from the ground. The eggs are three or four in number.]

104. Fringillaria impetuani.

Fringillaria impetuani Sharpe, ed. Layard, pp. 489, 851 (1875–84); id. Cat. B. xii. p. 563 (1900); Stark, Faun. S. Afr., Birds, i. p. 190 (1900); Shelley, B. Afr. iii. p. 159, pl. xxiii. fig. 2 (1902).

a. ad.	Deelfontein,	Jan. 10, 1901.	Iris hazel.
b. ♂ ad.	,,	Jan. 25, 1901.	
c. ♂ ad.	,,	April 1901.	
d. ♂ ad.	,,	Feb. 17, 1902.	
e–i. ♂ ♀ ad.	,,	March 2–13, 1902.	
k, *l.* ♂ ♀ ad.	,,	April 3, 4, 1902.	
m. ad.	,,	April 25, 1902.	
n, *o.* ♂ ♀ ad.	,,	Oct. 24, 1902.	

There seems to be very little variation in the colour of this species at different seasons of the year, as I have already remarked in the 'Catalogue.' The moult apparently takes place in March, and the old birds may be distinguished from the young by an indication of a dusky spot on the lower throat. In the breeding-plumage the ear-coverts become decidedly more rufescent.

[The Little Brown Bunting is very common and is found with us all the year; it generally occurs in small parties of five or six. The food consists of seeds and insects. The nest is placed under a stone on the side of a kopje, and the eggs are from two to four. This species does fairly well in confinement, but seems to be drinking nearly all day.]

105. MOTACILLA CAPENSIS.

Motacilla capensis Linn.; Sharpe, ed. Layard, B. S. Afr. pp. 547, 853 (1875–84); id. Cat. B. x. p. 493 (1885); Stark, Faun. S. Afr., Birds, i. p. 259 (1900); Shelley, B. Afr. ii. p. 277 (1900).

a, b. ♀ ad.; *c.* ♀ juv. Deelfontein, Jan. 10–27, 1901.

d. ♀. Deelfontein, Feb. 11, 1901.

e, f, g. ♂ ad.; *h, i.* ♀ ad. Deelfontein, Feb. 6–28, 1902. Bill and feet black; iris hazel.

k, l, m. ♂ ad.; *n–r.* ♀ ad. Deelfontein, March 2–31, 1902.

s. ♂ ad. Deelfontein, Aug. 24, 1902.

t. ♀ ad. Deelfontein, Nov. 4, 1902. With nest and three eggs.

As will be seen by the series, this Wagtail nests in November, a hen bird having been shot off the eggs. In February the birds moult, this stage being completed in March, and it is curious to note that the narrow band across the end of the greater wing-coverts is sometimes very distinct and sometimes scarcely traceable, the white terminal edgings being often obsolete. In a few individuals the median coverts also shew a light bar at their ends, and I am unable to trace any evidence that these are necessarily older birds. These wing-bands become very much abraded in the breeding-season. Two clutches of eggs were obtained, of an extraordinary colour for a Pied Wagtail. They are uniform stone-colour, with a slight indication of drab mottling. Axis 0·8 inch, diam. 0·6.

[The Wagtail was a very common bird throughout the year, being found in pairs or small parties. It is a very tame little bird, and will approach a person within a few feet. The nest is built in a "sluit"-wall or in the bank of a dam: eggs four in number.]

106. ANTHUS CRENATUS.

Anthus crenatus Finsch & Hartl.; Sharpe, ed. Layard,

p. 543 (1884); id. Cat. B. x. p. 541 (1885); Stark, Faun. S. Afr., Birds, i. p. 245 (1900); Shelley, B. Afr. ii. p. 298, pl. xiii. fig. 2 (1900).

a. ♀ ad. Deelfontein, March 14, 1902.
b, c, d. ♂ ad. „ May 19–31, 1902.
e. ♂; *f, g.* ♀ ad. „ June 2–13, 1902.

Apparently a winter visitor, as all the specimens are in winter plumage, that killed in March having nearly completed its moult.

[This we called the "Kopje Lark." It was not common, but was found on flat-topped kopjes from March to June, frequenting the rough ground. It was fairly tame.]

107. ANTHUS VAALENSIS.

Anthus pyrrhonotus, pt. (nec V.); Sharpe, Cat. B. x. p. 555 (1885); Stark, Faun. S. Afr., Birds, i. p. 250 (1900).

Anthus vaalensis Shelley, B. Afr. ii. p. 311 (1900).

a. ♂ ad. Deelfontein, Sept. 24, 1902.

108. ANTHUS NICHOLSONI.

Anthus nicholsoni Sharpe, ed. Layard, p. 536 (1884); id. Cat. B. x. p. 553 (1885); Stark, Faun. S. Afr., Birds, i. p. 249 (1900); Shelley, B. Afr. ii. p. 312 (1900).

a. ♀ ad. Deelfontein, Jan. 8, 1901.
b. ♂ ad. „ March 23, 1902. Bill, upper mandible dark brown, lower mandible and feet pale horn-brown; iris hazel.

c. ♂; *d, e.* ♀ ad. Deelfontein, March 14–23, 1902.
f. ♂ ad. „ April 27, 1902.
g, h. ♂ ad.; *i.* ♀ ad. „ May 5–30, 1902.
k. ♂ ad. „ June 2, 1902.

The birds procured in March are all moulting and shew considerable difference in the pattern of the penultimate feather, but the blackish shaft-streak remains a striking characteristic of the species.

[This species arrives at Deelfontein in March, though we shot one in January. It was fairly common, and was generally found at the bases of the kopjes. Some were caught in the gins set for wild cats.]

109. ANTHUS RUFULUS.

Anthus caffer Sundev.; Sharpe, ed. Layard, p. 434 (1884).

Anthus rufulus V.; Sharpe, Cat. B. x. p. 574 (1885); Stark, Faun. S. Afr., Birds, i. p. 251 (1900); Shelley, B. Afr. ii. p. 319 (1900).

a. ♀ juv. Deelfontein, Feb. 12, 1902.
b, c. ♂ ad.; *d.* ♀ ad. Deelfontein, March 10, 1902.
e. ♂; *f, g.* ♀ ad. „ April 3, 1902.
h. ♀ ad. „ July 3, 1902.

All the birds procured in March and April have more or less completed their moult, and some curious variation is exhibited as regards the amount of white on the penultimate tail-feather. It is evident that in the freshly moulted state some specimens, probably young birds of the previous season, have the penultimate tail-feather almost entirely black, with a wedge-shaped mark of white near the end. This gradually increases in extent, but very irregularly, until at last the white is nearly as much developed as on the outer feather, shewing merely a long wedge-shaped mark of brown on the inner web. A similar variation takes place in Malayan specimens (*cf.* Sharpe, Cat. B. x. p. 577).

110. CERTHILAUDA ALBOFASCIATA.

Certhilauda rufula (nec V.); Sharpe, ed. Layard, pp. 496, 851 (1875–84); id. Cat. B. xiii. p. 515 (1890); Stark, Faun. S. Afr., Birds, i. p. 234 (1900).

Certhilauda albofasciata Lafr.; Shelley, B. Afr. iii. p. 22 (1902).

a, b. ♂ ad.; ♀ pull. Deelfontein, Jan. 29, 1901.
c, d, e. ♂; *f, g.* ♂ ♀ juv. „ Feb. 3–12, 1902.
h, i. ♂ ad. „ March 23–26, 1902.
k, l. ♂ ♀ ad. „ April 3, 4, 1902.
m, n. ♂ ♀ ad. „ May 15, 1902.
o–r. ♂ ad.; *s, t.* ♀ ad. „ Sept. 28, 30, 1902. Iris greyish hazel.
u. ♂ ad. „ Nov. 11, 1902.

From the spotted nestling stage the young Lark moults into a winter plumage exactly like that of the adult, and carries a scalloped appearance on the back, most of the feathers being margined with white or isabelline. These edgings disappear in the breeding-season, being abraded or shed, and the upper surface is then much more streaked in appearance.

[This Lark was very common all the year round, and even in the breeding-season was met with in parties of from five to seven. It is very tame, and generally utters a call when it rises to fly.]

111. ALÆMON NIVOSA.

Alæmon nivosa (Swains.); Sharpe, ed. Layard, p. 501 (1875–84); id. Cat. B. xiii. p. 522 (1890); Stark, Faun. S. Afr., Birds, i. p. 230 (1900).

Alæmon semitorquata (nec Smith); Sharpe, Bull. B. O. C. xii. p. 2.

Mirafra nivosa Shelley, B. Africa, iii. p. 33 (1902).

a. ♂ juv. Deelfontein, Jan. 23, 1901.
b. ♀ juv. ,, March 7, 1901.
c, d. ♂ ♀ ad. ,, Feb. 28, 1902.

Young birds, it will be noticed, were procured in January and March. The old birds, killed in February, are moulting into a rufescent winter plumage.

112. ALÆMON SUBCORONATA.

Certhilauda subcoronata (Smith); Layard, B. S. Afr. 1867, p. 499.

Alæmon semitorquata, pt. (nec Smith); Sharpe, ed. Layard, pp. 499, 851 (1875–84); id. Cat. B. xiii. p. 521 (1890); Stark, Faun. S. Afr., Birds, i. p. 228 (1900); Shelley, B. Afr. iii. p. 25 (1902).

a, b. ♂ ♀ imm. Deelfontein, Feb. 10, 1901.
c. ♂ ad. ,, Feb. 7, 1902.
d. ♀ juv. ,, March 7, 1901.
e–k. ♂; *l, m.* ♀ ad. ,, March 5–31, 1902.
n–r. ♂; *s, t.* ♀ ad. Deelfontein, May 4–30, 1902. Bill black, lower mandible slate-coloured at base; feet slate-coloured, nails black; iris light hazel.
u, v. ♂; *w.* ♀ ad. Deelfontein, Aug. 2, 24, 1902.
x. ♂ ad. ,, Sept. 5, 1902.

It will be noticed that this set of skins was procured between February and September, and that none were collected between October and January, when the birds would be breeding. There is, however, no appreciable difference between specimens killed in March and August.

The fine series of specimens obtained by Messrs. Seimund and Grant causes me to modify my opinion with regard to *Alæmon semitorquata.* They have been procured throughout the different months of the year and present a wonderful uniformity of plumage, so that the idea that the Deelfontein specimens could represent the winter dress of the eastern red form (*A. semitorquata* of Smith) must be abandoned.

There seem to be five races of these Larks. The one from the western end of the Cape Colony is *Certhilauda subcoronata* Smith. The type seems not to have come to the British Museum, but the figure in the 'Illustrations' (plate xc. fig. 2) leaves no doubt as to the species, which is the Deelfontein bird. It is of a dark vinous colour, with broad blackish stripes on the head and back. The throat is white, with a few triangular blackish spots on the lower part, which spots become much larger on the fore-neck and chest, while the breast and flanks have very distinct linear streaks of blackish.

In Natal and the Transvaal the form of *Alæmon* is much more rufous above and more uniform, the stripes on the back being often obsolete and occasionally entirely absent. The throat is buffy whitish and the breast and flanks unstreaked and buffy or vinous in colour. The spots on the fore-neck and chest are fewer in number and consist of light brown triangular marks of small size. This form must bear the name of *A. semitorquata* (Smith).

Then there is a third form from the Orange River, of which the Museum possesses three specimens collected by the late Dr. Bradshaw. This is light rufous above like the foregoing bird, but with narrower and less pronounced blackish shaft-streaks. The spots on the fore-neck and chest are few in number as in *A. semitorquata,* and they are as distinct as in *A. subcoronata,* but there are no blackish streaks on the flanks. This form holds an intermediate position between the two previous species, and may be called *A. bradshawi*, sp. nov.

There is another very pale vinous form from Damaraland, with a few scanty spots on the fore-neck, and very pale under surface, which is almost white. It is easily distinguished by its pale colour from *A. semitorquata*, and may be called *A. damarensis*, sp. nov.

Lastly, the Benguela bird also seems to be different, having a general resemblance to *A. damarensis* beneath, but with the head ashy brown like the hind-neck and with distinct longitudinal shaft-stripes of blackish brown, whereas in *A. damarensis* the head is pale vinous like the back, and there are scarcely any shaft-streaks. It seems to me to be worthy of a name, and I propose to call it *A. benguelensis*, sp. nov.

[Very common and found all the year round, but never in flocks; it was generally met with at the rocky foot of a kopje, and occurred in pairs. It is called by the Boers " Spring-bok Couster," from its habit of jumping up into the air when feeding.]

113. TEPHROCORYS CINEREA.

Tephrocorys cinerea (Gm.); Sharpe, ed. Layard, pp. 511, 851 (1875-84); id. Cat. B. xiii. p. 561 (1890); Stark, Faun. S. Afr., Birds, i. p. 222 (1900); Shelley, B. Afr. iii. p. 123 (1902).

a, b. ♂; *c, d.* ♀ ad. et imm. Deelfontein, Feb. 12-14, 1902.

e, f. ♂; *g, h, i.* ♀ ad. Deelfontein, March 8, 1902.

k. ♂ ad. Deelfontein, March 23, 1902.

All these specimens are either moulting or have just freshly moulted into winter plumage, when the appearance is very much that of a *Calandrella*: the chest is uniform ashy brown or shews a few streaks on the fore-neck. The chestnut patch on the side of the chest is obscured by ashy brown and the bill is pale. In the breeding-season the bill becomes entirely black.

114. CALENDULA CRASSIROSTRIS.

Calendula crassirostris (V.); Sharpe, ed. Layard, p. 513 (1875–84); id. Cat. B. xiii. p. 639 (1890); Stark, Faun. S. Afr., Birds, i. p. 202 (1900); Shelley, B. Afr. iii. p. 115 (1902).

a. ♂ juv. Deelfontein, Feb. 28, 1902. Upper mandible black, lower mandible flesh-coloured; feet bluish white.

b, c. ♂ ♀ ad. Deelfontein, May 15–22, 1902. Iris hazel.
d, e. ♂ ♀ ad. ,, Aug. 21, 1902.
f, g. ♂ ♀ ad. ,, Sept. 3, 19, 1902.
h. ♂ ad. ,, Oct. 29, 1902.
i. ♀ pull. ,, Oct. 24, 1902.

A nestling killed towards the end of October has a yellowish abdomen, and the upper surface is prettily spangled with white spots and fringes to the wing-coverts and secondaries. A full-grown young male is moulting into its first winter plumage on the 28th of February.

[This Lark is found here all the year round, and is very common; it is fond of sitting on the tops of black-thorn trees and uttering a short call-note. The nest is built on the veldt, and we found one within a yard of the nest of a Ringed Plover; it was in rather an open spot, and consisted merely of a depression in the ground, about an inch in depth, lined with fine grass.]

115. MIRAFRA RUFIPILEA.

Mirafra rufipilea (V.); Sharpe, ed. Layard, p. 517 (1875–84); id. Cat. B. xiii. p. 598 (1890); Stark, Faun. S. Afr., Birds, i. p. 218 (1900); Shelley, B. Afr. iii. p. 16 (1902).

a. ♀ juv. Deelfontein, April 1, 1901.

116. MIRAFRA NÆVIA.

Mirafra nævia (Strickl.); Sharpe, ed. Layard, pp. 524, 851 (1875–84); id. Cat. B. xiii. p. 617; Stark, Faun. S. Afr., Birds, i. p. 209 (1900); Shelley, B. Afr. iii. p. 38, pl. xv. fig. 2 (1900).

a. ♀ juv. Deelfontein, May 4, 1902. Iris hazel; feet bluish fleshy; bill horny black, yellowish at gape.

b. ♂ ad. Deelfontein, Nov. 6, 1902.

The specimen in breeding-plumage is very dark and has the spots on the chest very distinct; the bill is also horny blackish throughout. The young bird is full-grown and in good plumage; the date seems somewhat remarkable for it not to have moulted into its adult winter dress.

117. PYRRHULAUDA AUSTRALIS.

Pyrrhulauda australis (Smith): Sharpe, ed. Layard, p. 402 (1875–84); id. Cat. B. xiii. p. 651 (1900); Stark, Faun. S. Afr., Birds, i. p. 194 (1900); Shelley, B. Afr. iii. p. 76 (1902).

a–e. ♂ ad. Deelfontein, Feb. 23–28, 1902. Bill bluish white; feet brownish white; iris red.

f, g. ♀ ad. et juv. Deelfontein, Feb. 12, 28, 1902. The old female had the soft parts like those of the males.

h–m. ♂ juv.; *n, o, p.* ♀ ad. Deelfontein, March 23, 1902. Iris rich reddish brown.

q, r. ♂ ad. Deelfontein, May 25, 1902. Bill slaty white; feet dark slate-coloured; iris reddish brown.

s, t. ♂ ad. et juv. Deelfontein, June 14, 15, 1892.

The adult males killed in February seem to be in somewhat worn plumage, but apparently are not moulting. One specimen only has rather broad sandy-rufous edgings to the wing-coverts and secondaries. In May and June the birds are changing into winter-plumage, and the adult males are recognisable by the blacker crown, which is a little obscured by sandy-rufous edgings to the feathers. The young males have streaked heads like the females, but are blacker below, and when the black breast is assumed there are a few remains of hoary-whitish edges to the feathers. Young males at first resemble old females and are streaked or spotted below. One old male shot on the 25th of May has a white nuchal patch!

[These little Finch-Larks were very common all the year round, and occurred in large and small flocks. When the mid-day sun was hottest they hid under the larger bushes of the veldt, but we never discovered one of their nests. They fed on the same small black seed as the Sand-Grouse.]

118. PYRRHULAUDA VERTICALIS.

Pyrrhulauda verticalis (Smith); Sharpe, ed. Layard, p. 492 (1875–84); id. Cat. B. xiii. p. 656 (1890); Stark, Faun. S. Afr., Birds, i. p. 195 (1900); Shelley, B. Afr. iii. p. 83 (1902).

a–e. ♂ ad. et imm.; *f.* ♀ ad. Deelfontein, Nov. 11–23, 1902.

g. ♂ ad. Deelfontein, March 10, 1902.

The variation in size of the white spot on the crown is remarkable, and in some specimens it disappears altogether; it is obscured by a shade of brown in all those killed in November, while the March specimen has the vertical spot whiter than the others and has the white margins of the coverts very broad and distinct.

[Very fond of visiting old camping-grounds, where it was fairly common in flocks of from four to six individuals, or more. It fed on the same small black seeds as the Sand-Grouse, and was generally in company with the Red-headed Larks.]

119. SPREO BICOLOR.

Spreo bicolor Sharpe, ed. Layard, pp. 429, 846 (1875–84); id. Cat. B. xiii. p. 187 (1890); Stark, Faun. S. Afr., Birds, i. p. 30 (1900); Reichenow, Vög. Afrikas, ii. p. 673 (1903).

a, b, c. ♂; *d, e.* ♀ imm.	Deelfontein,	Feb. 14–18, 1902.
f. ♂ ad.	,,	March 5, 1902.
g, h. ♂; *i.* ♀ ad.	,,	May 15, 1902.
k. ♂; *l, m.* ♀ ad.	,,	Aug. 9, 1902.
n, o. ♂ ♀.	,,	Oct. 29, 1902.
p. ♀ ad.	,,	Nov. 23, 1902.

All the birds killed in February are moulting out of an earthy-brown plumage into the metallic dress. Those obtained in May seem to have just finished their moult, and are rather dull in colour, being apparently young birds.

In October the birds appear to be undergoing another moult, and the hen shot from the nest in December is also moulting out of the brown into the metallic plumage. The egg is of a beautiful blue colour, with a few reddish-brown or ochreous-brown dots. Axis 1·25 inch, diam. 0·9.

[Very common with us all the year, coming in large flocks to roost at the farms; it is also very partial to bamboo-clumps for roosting. It is a very noisy bird. The eggs and young are destroyed by the Boers, who declare that they do great damage to the fruit. They thrive well in captivity, if fed on meat, and we found them an attractive bait for the trapping of lynxes and wild cats. The nest was in the hole of a wall or "sluit," and, when first built by the parent birds, was made of green materials and was very damp. Three or four eggs were laid.]

120. CREATOPHORA CARUNCULATA.

Dilophus carunculatus (Gm.); Sharpe, ed. Layard, pp. 421, 845 (1875–84); id. Cat. B. xiii. p. 61 (1890); Stark, Faun. S. Afr., Birds, i. p. 23 (1900).

Perissornis carunculatus Oberh.; Reichenow, Vög. Afrikas, ii. p. 670 (1903).

Creatophora carunculata Lesson, Compl. Buff. ed. Lévéque, xx. p. 308 (1847); Richmond, Auk, xix. p. 92.

a, b. ♂ ♀ ad.	Deelfontein,	Feb. 23, 1902.
c, d, e. ♂.	„	March 5, 1902.
f, g. ♂; *h.* ♀ ad.	„	May 21, 1902.
i–l. ♂; *m, n.* ♀ ad.	„	June 13, 1902.
o, p. ♂ ♀ ad.	„	Oct. 29, 1902.

The moult seems to last some time, as specimens killed in February, March, May, and June are all moulting to a greater or less extent. This is probably due to the fact of the bird rearing two broods. Only one adult male with wattles is in the collection; this is the specimen shot on the 29th of October. Young males seem to have the bare part of the orbits and throat yellow as in the old females. One "female" bird procured on the 21st of May shews a white primary-covert, but I think that there has been a mistake in the sexing of this specimen, which seems to be a young male.

[Boer name "Green Spreuw" or "Sprinken Spreuw." These birds are found all the year round. They are like *Spreo bicolor* in habits, and come to roost with them, though not in such large flocks. Their flight, however, is like that of

Sturnus vulgaris. They are not noisy, and are somewhat shy, excepting at roosting-time. The Boers said that they built their nests on the tops of the bushes, but we did not find one.]

121. PYRRHOCHIRA INTENSITINCTA.

Juida fulvipennis Sund.; Layard, B. S. Afr. p. 173 (1867).

Amydrus caffer (Linn.): Sharpe, ed. Layard, pp. 430. 846 (1875-84), pt.; Stark, Faun. S. Afr., Birds, i. p. 28 (1900).

Pyrrhocheira caffer Sharpe, Cat. B. xiii. p. 169 (1890, pt.).

Pyrrhocheira caffer, var. *intensetincta* Reichenow, Vög. Afrikas, ii. p. 697 (1903).

Amydrus nabouroup benguellensis Neum. Orn. MB. 1903, p. 184.

a. ♂ ad.	Deelfontein,	Jan. 12, 1901.
b, *c*. ♂ ad.	„	March 23-26, 1902. Iris orange-red; bill and feet black.
d. ♀ ad.	„	April 15, 1902.
e. ♂ ad.	„	April 23, 1902.
f, *g*. ♂ ♀ ad.	„	May 19, 1902.
h. ♂ ad.	„	June 12, 1902.
i, *k*. ♂ ad.	„	Dec. 22, 1902.

The female appears to resemble the male in plumage, but is a little smaller in size. The moult seems to take place from December to April.

I can appreciate the characters of Dr. Reichenow's race *intensetincta*, and all the Deelfontein birds belong to this form, which has a more rufescent tint on the inner aspect of the quills, while in the true *P. caffer* the inner webs of the quills incline to white. Mr. Oscar Neumann's new race *Amydrus nabouroup benguellensis* from Benguela (Orn. MB. 1903, p. 184) seems to me to be absolutely the same as the Damara birds in the Museum collection. I can recognise only two forms.

[The "Rooi-vlerk Spreeuw" was fairly common with us and remained throughout the year, but was always very shy, occurring in flocks of from five to twelve individuals. These Starlings used to roost in the krantzes of the kopjes and hills, coming in the morning and evening to the dams on the veldt to drink. The nest was made of dried grass, and was built in a crack in the rocks or under sloping stones. We never found the eggs, but got one nest with three young birds.]

122. HETEROCORAX CAPENSIS.

Heterocorax capensis (Licht.); Sharpe, Cat. B. iii. p. 12 (1877); id. ed. Layard, pp. 415, 845 (1875–84); Reichenow, Vög. Afrikas, ii. p. 637 (1903).

Corvus capensis Stark, Faun. S. Afr., Birds, i. p. 14 (1900).

a. ♂. Deelfontein, May 25, 1901.

The African Rook was not common; it was very like our European Rook in its ways. It bred in the neighbourhood of Deelfontein and laid two eggs. When taken young, the birds became very tame, and we had two live pets which made great friends with everyone in camp. Boer name "Swart Vogel."]

123. CORVULTUR ALBICOLLIS.

Corvultur albicollis (Lath.); Sharp, ed. Layard, p. 417 (1875–84); id. Cat. B. iii. p. 22 (1877); Stark, Faun. S. Afr., Birds, i. p. 10 (1900); Reichenow, Vög. Afrikas, ii. p. 640 (1903).

a. ♀ ad. Deelfontein, April 14, 1902.

XXV.—*Description of a new Species of Dove of the Genus* Haplopelia. By T. SALVADORI, F.M.Z.S.

WHEN, in 1900, the portion of the 'Bulletin of the Liverpool Museum' containing the interesting Catalogue of the Pigeons in the Derby Museum was issued, I was surprised to find that a specimen stated to be from the interior of Cayenne was attributed to *Haplopelia principalis* Hartl. My surprise was due to the fact that this species had been described by Hartlaub as coming from Prince's Island in the Gulf of Guinea and not from South America.

At my request, Dr. Forbes very kindly sent me the specimen in question for inspection, and in my paper on the Birds of Prince's Island * I have already stated that the supposed *H. principalis* of the Liverpool Museum is totally different from the bird of Prince's Island, of which I had before me four specimens collected by Signor L. Fea in that island.

Dr. Forbes very generously gave me permission to describe the specimen from Prince's Island, in case I should find that it belonged to a new species, as I hinted to him. Want of time, however, has hitherto prevented me, engaged as I was on other work, from publishing the results of my enquiries about this interesting bird, which I now name and describe as a new species.

HAPLOPELIA FORBESI, sp. nov.

Supra umbrino-brunnea, sincipite cinerascente; collo postico viridi micante, pro adjectu lucis purpurascente; collo antico (gula alba excepta) pectoreque brunneo-rufescentibus, obsolete viridi micantibus; lateribus brunneis, abdomine medio et subcaudalibus albis; cauda brunnea, rectricibus mediis concoloribus, lateralibus fascia apicali latiuscula albida ornatis; pedibus in exuvie pallidis, rostro fusco. Long. tot. circa 230 mm.; al. 120; caud. 93; rostri culm. 14; tarsi 26.

The type specimen, which appears to be fully adult, had evidently been kept in confinement, as it has the tail-feathers, except the middle pair, much worn at the tips †.

About this specimen Dr. Forbes and Mr. Robinson have made several statements, which require some comments:—

(1) They say that the specimen has been "identified at the British Museum." I do not quite understand the meaning of this statement, as, to my knowledge, *H. principalis* was not represented in the British Museum at the time of the publication of the 'Catalogue of the Pigeons'—and is, perhaps, still wanting there. I suppose, however, that the statement refers to the identification having been made with the help of the ornithologists of the British Museum.

(2) Dr. Forbes and Mr. Robinson say that in the original

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* Mem. R. Ac. Sci. Tor. (2) liii. p. 13 (1903).

† The label attached to the specimen reads as follows:—"Interior of Cayenne (*Leadbeater*, Sept., 1844). Length $9\frac{1}{2}$ in., extent 17 in."

Catalogue of Lord Derby's Collection this specimen has the same register-number as examples of *Leptoptila jamaicensis*. It is evident, however, that the author of the register did not perceive how utterly different the specimen under consideration is from the Jamaican bird.

(3) Dr. Forbes and Mr. Robinson say that the bird they call *H. principalis* "very nearly agrees with the description of *Columba erythrothorax* Temm. et Knip, from Surinam." This is a species which has not hitherto been identified and is said to have the under tail-coverts "cinnamon, not *hoary grey* as in their specimen." Neither of the statements in this paragraph are quite exact: I find that the specimen belonging to the Derby Museum has the under tail-coverts not hoary grey, but pure white, and besides the bird is quite different from the figure of *Columba erythrothorax*, which, as I have already stated in the 'Catalogue of Birds' (vol. xxi. p. 539), I have very little doubt represents the African *Haplopelia larvata*.

Having so far discussed the statements made by Dr. Forbes and Mr. Robinson with regard to the interesting specimen which they have attributed to *H. principalis*, I may add that it is totally different from all the other known species of the genus *Haplopelia*, and that Dr. Reichenow agrees with me in believing that it belongs to an undescribed species. Unfortunately, its locality is not known, but it is probably from some part of Western Africa.

Being on the subject of *Haplopelia*, I may remark that Capt. Alexander (Bull. B. O. C. xiii. p. 33) has described a new *Haplopelia poensis*, "similar to *H. principalis*, but with the under tail-coverts ashy (*cinereis*) instead of white." More recently, however (Ibis, 1903, p. 396) he has rejected this species, which he identifies with *Haplopelia simplex* (Hartl.) from San Thomé. But I much doubt the correctness of this identification, from the fact that between Fernando Po and San Thomé lies Prince's Island, where *H. principalis*, a perfectly distinct species, is found. It appears to me very improbable that the same species should exist in Fernando Po and San Thomé, while a different species lives in the intervening Prince's Island.

XXVI.—*Key to the Palæarctic Species of Larks of the Genus* Otocorys. By V. Bianchi, F.M.B.O.U.

I wish to submit to the readers of 'The Ibis' the following key to the Palæarctic species and subspecies of the Horned Larks (*Otocorys*), of which I have lately made a careful study. I divide them into eight species and four subspecies; of the latter, three are now designated for the first time.

a. Black chest-band divided from the black on the sides of head by a more or less broad white interspace on the sides of the neck.
- *b.* Throat, cheeks, and forehead sulphur-yellow in summer-, as well as in winter-dress.
  - *c.* In the male the occiput, nape, and lesser wing-coverts of some shade of vinous red, always in contrast with the back; in the female the dark streaks of the hinder part of forehead nearly confluent. Wing, ♂ 4·6–4·15, ♀ 4·25–3·35 in.—*Hab.* Tundras and Barren-grounds of the Circumpolar region.—[*flava* (Gm.), 1788; *cornuta* (Wils.), 1888; *nivalis* (Pall.), 1811; *striatus* et *rufescens* (Brehm), 1855.] .... *O. alpestris* (Linn.), 1766.
  - *c′.* In the male the occiput and nape rich rufescent, lesser wing-coverts sandy brown, as the back, not vinous; in the female the hinder part of the forehead streaked. Wing, ♂ 4·45, ♀ 4·10 in.—*Hab.* Great Atlas Mts., Marocco .. *O. atlas* Whitaker, 1898.
- *b′.* Throat, cheeks, and forehead always white.
  - *d.* No brown shaft-streaks on the back, the centre of the feathers being only slightly darker than the sides. Occiput, nape, and lesser wing-coverts exactly like the back and upper tail-coverts, all the upper surface being of a bright, more or less uniform sandy colour, with a shade of vinous in the winter-dress in the male. A broad black band on the hinder part of the forehead in the female. Wing, ♂ 3·95–3·80, ♀ 3·65 in.—*Hab.* Deserts from Arabia Petræa to Algeria .. *O. bilopha* (Temm.), 1823.
  - *d′.* Always has brown shaft-streaks on the back, more or less hidden in the fresh plumage by the overlying feathers. In the male the occiput and nape some shade of vinous red or lilac, in strong contrast to the colour of the back; in the female black shaft-streaks on the hinder part of the forehead not forming a confluent band.

c. A more or less broad white band on the fore part of the forehead in the male, the corresponding white or whitish feathers being without dark shaft-streaks in the female.

f. Only the nasals black, the feathers of the adjacent foremost part of the forehead being white. (A narrow capistrum sometimes in hybrids *O. penicillata* × *O. brandti.*)

g. Wing in the male not more than 4·70 in., usually not more than 4·55 in., in the female not more than 4·35 in.

h. Culmen from the front end of the nostrils not more than 0·4 in. in the male, not more than 0·35 in. in the female. Darker and browner. Smaller.

i. Bill thicker and shorter. White interspace on the sides of the neck broad. Ear-tufts of the male shorter; no traces of a capistrum. Wing, ♂ 4·50–3·95–3·92, ♀ 4·25–3·80 in. — *Hab.* Steppes of Asia from Volga River to Dauria.—[*sibirica* Swinh., 1871; *parverti* Tacz., 1876.] .... *O. brandti* Dresser, 1874.

i'. Bill thinner and longer. White interspace on the sides of the neck narrower. Ear-tufts of the male longer; sometimes traces of a capistrum. Wing, ♂ 4·70–4·20, ♀ 4·30–3·80 in.—*Hab.* Mountains of the northern part of Central Asia.—[*brandti* (nec Dress.) et *elwesi* (nec Blanf.) auct. nonnull. ex parte.] *O. brandti montana*, subsp. nov.

h'. Culmen from the front end of the nostril 0·42–0·48 in.: rarely 0·40 in. in the male, 0·38–0·46 in. in the female. Lighter, sandy rufous, even whitish in the fresh dress. A large form with a comparatively short wing: in the male 4·50–4·40 in., in the female 4 35–4·10 in.—*Hab.* Zaidam. *O. brandti przewalskii*, subsp. nov.

g'. Wing in the male not under 4·75 in. (5·20–4·80–4·75), in the female not under 4·50 in. (4·80–4·50). A very large, long-winged form.—*Hab.* Karakorum, Cashmere, and Himalayas to Kumaon.—[*perissa* et *argalea* Oberhols., 1902] .... *O. longirostris* Moore, 1855.

f'. Besides the black nasals, a black band, in typical birds large, in less typical narrower, but always distinct, forming a capistrum on the foremost part of the forehead and followed by a white band which does not reach the black nasal coverts. In the female the black capistrum is replaced by one that is brown or brownish.

k. Lighter, browner above; shaft-streaks on the back less developed. Wing, ♂ 4·95–4·25–4·00, ♀ 4·50–4·10–4·00 in.—*Hab.* Nanshan, Zaidam, Tibet, and Himalayas from Sikkim to Ladak.—[*nigrifrons* Przew., 1876.] .... *O. elwesi* Blanf., 1872.

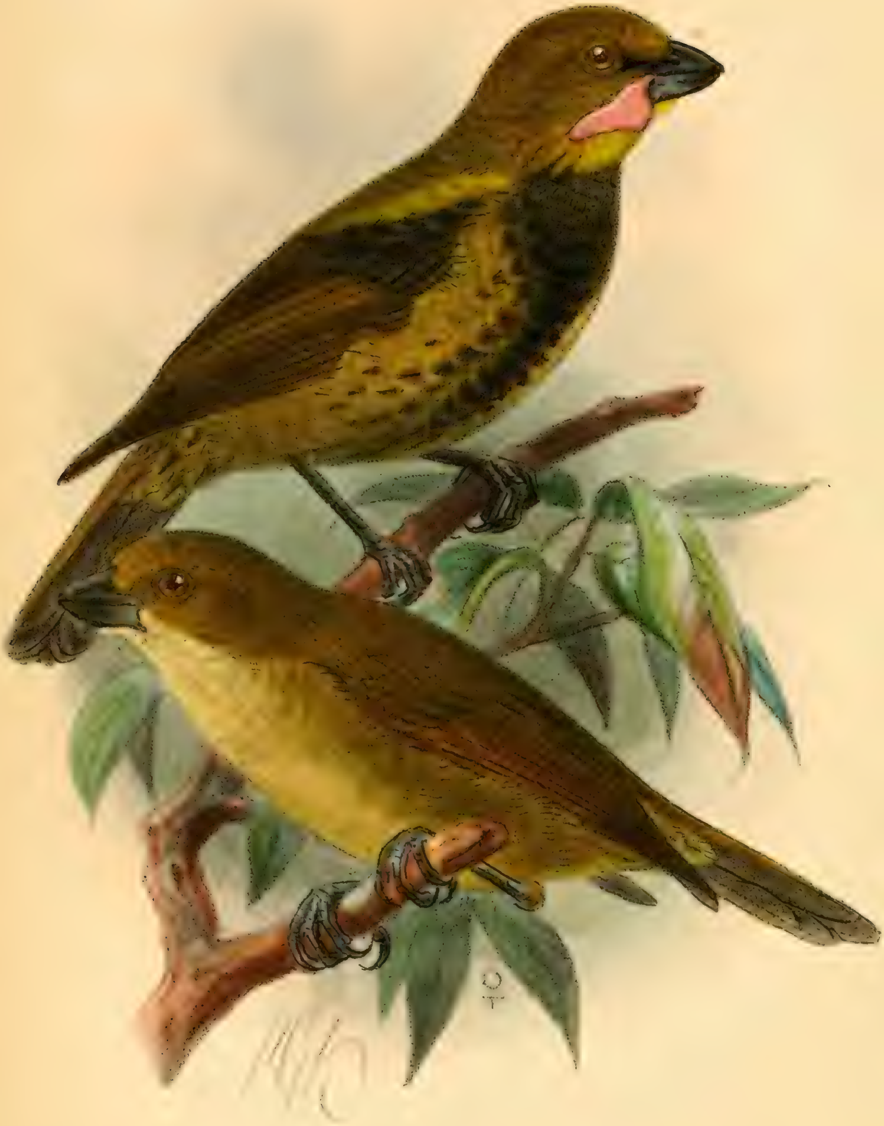
k'. Decidedly darker in all the plumages, more rufescent; shaft-streaks on the back more developed. Wing, ♂ 4·95–4·60, ♀ 4·50–4·45 in.—*Hab.* Kham, South-eastern Tibet. *O. elwesi khamensis*, subsp. nov.

e'. No white band on the front part of the forehead, all the head from the nasals to the occiput being black in the male; in the female all the feathers of the forehead with dark shaft-streaks. Wing, ♂ 4·60–4·25, ♀ 4·15–3·90 in.—*Hab.* Western Kuen-lun to Chamen-tagh .... *O. teleschowi* Przew., 1887.

a'. Black chest-band connected with the black of the sides of the head, only the margins of the feathers being white in winter-dress, or the black feathers of the sides of neck *partly* white in the hybrids *O. brandti* × *O. penicillata*, forming a very incomplete and narrow white band.

l. Vinous-red or lilac colour of the nape not extending over the back, which is always distinctly streaked, the shaft-streaks being more or less covered by the adjacent feathers only in the winter-dress. Wing, ♂ 4·85–4·75–4·35, ♀ 4·35–4·00 in.—*Hab.* Alps of Balkan Peninsula, Caucasus, Persia, and Turkestan. [*scriba* Bp., 1850; *albigula* Bp., 1850; *larvata* Filippi, 1863; *pallida* et *diluta* Sharpe, 1890; *balcanica* Reichw., 1895; *transcaspica* Flöricke, 1898; *iranica* Zarud. & Härms., 1902; *oreodroma* Oberhols., 1902.] .... *O. penicillata* (Gould), 1837.

l'. Vinous-red or lilac colour of the occiput and nape extending over the back, which is almost uniform. Wing, ♂ 4·45–4·35, ♀ 4·15–4·05 in.—*Hab.* Syria and Palestine .... *O. penicillata bicornis* Sharpe, 1884.



J. G. Keulemans del. et lith.

Mintern Bros. imp.

EULACESTOMA NIGROPECTUS, ♂, ♀.

XXVII.—*On a rare Passerine Bird from New Guinea.*
By P. L. Sclater, D.Sc., F.R.S.

(Plate IX.)

Mr. Walter Rothschild has kindly lent me, from the treasures of the Tring Museum, a pair of the very curious little Passerine form which was described by Mr. De Vis in 1894 under the name *Eulacestoma nigropectus*, and I hope that the figures of both sexes of this rare bird, drawn by Keulemans, and the few remarks that I am able to offer upon them, will result in making the species better known to ornithologists.

The original specimens of this bird, now in the Queensland Museum at Brisbane, were obtained by Capt. Armit and Mr. Guise during their expedition up Mount Maneao, in British New Guinea, in February 1895. An account of the route of this expedition and of the adventures met with, drawn up by Mr. Guise, will be found in the 'Queensland Annual Report on British New Guinea' for 1893–94[*], of which there is a copy in the Zoological Society's Library. A most valuable and interesting series of birds was procured on this occasion, and was described by Mr. De Vis in an Appendix to the Report. Amongst the novelties was a new Passerine form, which is referred by Mr. De Vis to the family Laniidæ, and named *Eulacestoma*[†], from the much compressed and plough-shaped form of the bill. As Mr. De Vis's "report" is not of easy access, I will reprint his description:—

"Eulacestoma, n. g.—Bill much shorter than head, much compressed: the depth twice the breadth and equal to the length of the culmen. Culmen moderately arched; gonys arched more strongly. Nostrils oval? exposed. Nasal and rictal bristles short and feeble; a large wattle depending from the rictus. Wing rather pointed, tip formed by primaries 3–6; first primary more than half the length of second; secondaries long. Tail of ten feathers, rounded. Legs robust. Anterior tarsal scute almost entire.

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[*] Report by R. E. Guise, Esquire, on the Expedition despatched from Collingwood Bay to the Main Range. Queensl. Ann. Report on British New Guinea, 1893–94. Brisbane, 1894.

[†] 'Ευλάκα = a ploughshare—an obsolete Greek word.

"*Eulacestoma nigropectus*, n. s. Male at 5,650 feet: iris dark-grey, April 22nd.—Upper surface olive-green; the feathers of the back, rump, and upper tail-coverts edged with greenish-yellow, which is almost yellow on the sides of the mantle; chin and upper throat pale yellow; lower throat and breast black; flanks, abdomen, and under tail-coverts pale olive-green; wing-coverts black, the greater with olive-green margins. Wing fuscous-brown; primaries edged with olive-grey, secondaries with rufous-olive. Tail brown, the feathers edged with olive; head olive, lores black, broadly tipped with greenish-yellow; ear-coverts and face olive; wattle pinky brown (in life pink). Wings and tail beneath pale slate-brown; axillaries greenish-grey; under wing-coverts grey, near the metacarpal edge blackish; legs dark-brown; bill brown-black. Length, 110 mm.: wing, 65; tail, 55; culmen, 9; tarsus, 17."

This is a fairly accurate description of the male of the pair, belonging to the Tring Museum, now figured (Plate IX.), and I have no doubt that they have been correctly referred to Mr. De Vis's *Eulacestoma nigropectus*.

Both the specimens were obtained at Avera, on the Aroa River, British New Guinea, by Mr. A. S. Meek (or his collector), on May 31st, 1903. The Aroa River is situated north of Redsar Bay and north-west of Port Moresby *.

They may be shortly diagnosed as follows:—

♂. Suprà oleagineo-viridis; fronte et interscapulii margine exteriore flavescentibus, loris et alis nigris; remigum primariorum et secundariorum necnon tectricum marginibus externis oleagineo-viridibus, dorso concoloribus: subtus oleagineo-viridis, scuto magno pectorali et ventre medio nigris; subalaribus pallidè cinereis; caudâ nigricante, rectricibus externis viridi angustè marginatis; carunculâ rictali utrinque elongatâ brunneâ (in ave vivâ rubro-carneâ): rostro nigro, pedibus violaceo-nigricantibus. Long. tota 4·3, alæ 2·7, caudæ 1·8 (poll. et dec. Angl.).

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* See Nov. Zool. x. p. 435 and xi. p. 310.

♀. Suprà fuscescenti-oleaginea, alis caudâque brunneis, remigum et rectricum marginibus externis rufescentioribus: subtus dilutior, flavescens; lateribus et ventre inferiore saturatioribus, viridibus; subalaribus et remigum marginibus externis pallidè rufescentibus: rostro nigricante, pedibus pallidè brunneis; carunculâ rictali nullâ.

The male is labelled "Iris reddish brown, feet dark violet, bill black"; the female "Iris light brown, feet lavender; bill black, light at base of under mandible."

Besides Mr. Rothschild's specimens I have examined two skins, apparently referable to this species, in the British Museum.

The first of these, received in 1891, was obtained by one of Emil Weiske's collectors on the Aroa River, at a height of 6000 feet, in January 1890. It is labelled "♀: iris brown; feet and bill green." This specimen agrees very fairly with the female now figured, but has a somewhat stronger bill, and is rather more whitish beneath. I have no doubt that it is a female of this species.

The second specimen in the British Museum is from a small collection from Mount Albert-Edward, in S.E. New Guinea, obtained through Messrs. John Blyth and Co. in May 1898. It is generally similar to the first, but has a rather shorter and smaller bill, and the greater and lesser wing-coverts are broadly tipped with chestnut-rufous. It appears to me to be a younger female of the same species*.

As regards the exact position of *Eulacestoma* in the Passerine series, it is obviously a very distinct form, easily recognised by its excessively compressed bill (which is somewhat like that of the Neotropical form *Cyclorhis*) and the curious rictal wattles of the male. In his 'Handbook' (vol. iv. p. 314), Dr. Bowdler Sharpe has placed *Eulacestoma* in the subfamily Pachycephalinæ of the family Laniidæ, and this, I think, is not far wrong. The Australian Shrike-Tit (*Falcunculus*), which is arranged by Dr. Sharpe in the same subfamily, is probably one of its nearest allies.

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* *Cf.* Grant, Bull. B. O. C. viii. p. x (1898).

XXVIII.—*Note on the Decrease in the Weight of Eggs as Incubation advances.* By Hugh S. Gladstone, M.A., F.Z.S., M.B.O.U.

During the spring of 1903, when picking up Pheasants' eggs which had been laid in precarious places, such as the sides of roadways or near human habitations, I happened to weigh some of them, and was at once struck by the variation in their weight. Thinking that this variation might be caused by the length of time the eggs had been incubated, I had ten newly-laid eggs from ten different hens marked, and weighed them every fourth day, with the following results.

I reckoned 27 grs. = 1 dr.

Morning of	1st day. 19. v. 03.		4th day. 22. v. 03.		8th day. 26. v. 03.		12th day. 30. v. 03.		16th day. 3. vi. 03.		20th day. 7. vi. 03.		23rd day. 10. vi. 03.		24th day. 11. vi. 03.
No. on egg.	drs.	grs.	drs.	grs.	drs.	grs.	drs.	grs.	drs.	grs.	drs.	grs.	drs.	grs.	
1.	16	14	16	6	15	25	15	16	15	10	15	5	Broken by accident, 9. vi. 03: contained an embryo.		
2.	19	0	18	14	18	5	17	21	17	10	17	1	16	19	Chipped by chick.
3.	16	12	16	2	15	17	15	7	14	26	14	7	14	4	,,
4.	17	19	17	6	16	21	16	13	15	15	14	16	13	19	,,
5.	16	24	16	18	16	7	15	24	15	16	15	12	14	25	,,
6.	19	11	19	0	18	20	18	8	17	23	17	13	17	7	,,
7.	17	16	17	5	16	22	16	14	16	3	15	23	15	9	,,
8.	16	20	16	9	15	24	15	15	15	8	15	0	14	0	,,
9.	16	14	16	6	15	25	15	17	15	11	15	6	14	20	,,
10.	17	20	17	8	16	21	16	14	16	4	15	23	15	9	,,

This proves that a general decrease in the weight of the eggs took place whilst incubation was proceeding, the following table shewing the average decrease every fourth day:—

Variation in weight from first day.		Average weight.	
grs.		drs.	grs.
	First day	17	12
−10	Fourth day	17	2
−21	Eighth day	16	18
−30	Twelfth day	16	9
−40	Sixteenth day	15	26
−49	Twentieth day	15	17
−66	Twenty-third day ..	15	0

XXIX.—*On the Geographical Distribution of the True Pheasants* (*Genus* Phasianus *sensu stricto*). By S. A. Buturlin.

The true Pheasants (*Phasianus*) are gallinaceous birds with a very long, pointed, and much graduated tail of eighteen feathers. Their splendid plumage is so much alike in general appearance (although variable in details) and they interbreed so freely in a semi-domestic state (as do many other gallinaceous birds), that some eminent naturalists consider them all, or nearly all, to be only climatic or local races of one species.

But if our views on the taxonomic value of wild pure-bred forms are not to be based chiefly on the study of semi-domestic mongrels, we shall not share this view; we shall not call *Ph. scintillans* or *Ph. versicolor* of Japan a "local race" of *Ph. colchicus*, as Japanese and Caucasian birds in a wild state most certainly *do not* interbreed or "frequently merge into one another."

I will take here, as in other cases, for good species such forms as in their wild state do not intergrade with their allies, and for subspecies or geographical races such as, being on the whole quite recognisable and occupying geographically distinct areas, nevertheless do intergrade, as a rule, with closely allied forms.

To describe each form minutely would occupy too much space; but a synoptical table of the adult males of the *Phasiani* may, I think, be useful.

Genus Phasianus.

I. Head coppery reddish brown; central tail-feathers with very wide-set bars.
  A. Scapulars, lower back, and rump streaked with golden yellow; broad bars of the tail rusty chestnut, gradually darkening to brown .... 32. *soemmerringi* (p. 412).
  B. Scapulars, lower back, and rump streaked with white; broad bars of the tail half white, dotted with black .... 33. *scintillans* (p. 412).
  C. Scapulars with narrow purplish-black edges; lower back and rump pure white. 34. *ijimæ* (p. 413).

II. Crown and throat white; tail not widely barred .... 35. *reevesi* (p. 413).

III. Crown more or less greenish, yellowish, olive-brownish, or greenish bronze; central tail-feathers with black bars not wide apart.

D. Lower back, rump, and upper tail-coverts of a bronze-red, maroon, or rusty-orange general colour, sometimes glossed with oily-green; black bars on the tail generally narrow.

a. Wing-coverts sandy brown or sandy rufous.

α. Margins of the feathers of rump and upper tail-coverts green and buff; chest-feathers not margined with black .... 16. *tarimensis* (p. 397).

β. Margins of the feathers of rump and upper tail-coverts coppery maroon; chest-feathers margined with black.

a′. Middle of breast and sides of belly purplish red-bronze; centre of belly and under tail-coverts lighter, more rusty brown; black margins of chest- and breast-feathers narrow and glossed with dark blue.

α′. Wing-coverts and tail darker; chest-feathers more pointed and more deeply emarginated, black margins narrower...... 4. *talischensis* (p. 386).

β′. Wing-coverts and tail lighter; chest-feathers more rounded and less emarginated, black margins wider.............. 3. *lorenzi*, subsp. n. (p. 386).

b′. Middle of breast and sides of belly dark purplish green; centre of belly and under tail-coverts darker, blackish brown; chest- and breast-feathers broadly tipped with black.

γ′. General colour paler, more golden orange; black markings of mantle, chest, and flanks glossed with green; sides of neck with hardly any purple-blue gloss.................. 2. *septentrionalis* (p. 385).

δ′. General colour darker, more intense coppery red; black markings of mantle, chest, and flanks glossed with greenish blue or purple, as the sides of neck .... 1. *colchicus* (p. 385).

b. Wing-coverts white, yellowish white, or silvery grey.

γ. Middle of breast and sides of belly dark green; centre of belly brownish black.

c′. Throat coppery maroon; a white collar.

ε′. White collar wide and complete or nearly complete in front; maroon colour of the throat divided from the cheeks by a streak of bluish green; crown, nape, and hind-neck with prevailing green gloss; forehead, sides of neck, and tips of throat-feathers with prevailing greenish-blue gloss; chest and mantle with prevailing bluish and purplish gloss; middle of breast green; black markings of flanks purplish and greenish blue .... 14. *turcestanicus* [(p. 396).

η′. White collar narrower and more interrupted in front; only the very tips of the maroon feathers bordering the cheeks below with light greenish gloss; prevailing metallic gloss purple and bronze on the crown, nape, and hind-neck, dark yellowish green on forehead, bronzy green on sides of neck and on tips of throat-feathers, as also on chest, mantle, and middle of breast; black markings of flanks glossed with green.

a″. Collar wider and less interrupted; wing-coverts without blackish centres or only slightly clouded .... 13. *mongolicus* (p. 395).

b''. Collar very narrow or nearly wanting and widely interrupted in front; hidden centres of wing-coverts clouded with blackish...... 15. *semitorquatus* (p. 396).

d'. Throat dark green; no white collar or only slight traces of it.

θ'. Flank-feathers narrowly tipped, those of the chest, breast, and upper back very narrowly edged with black having a purplish-green gloss; rump-feathers with a subterminal green spot on each side of the shaft; black tail-bars much broader, wing-coverts somewhat yellowish .... 12. *shawi* (p. 394).

λ'. Flank-feathers broadly tipped, those of the chest, breast, and upper back very broadly edged with black having a rich green gloss; rump-feathers with a triangular green spot at the end of the shafts; black tail-bars much narrower; wing-coverts clearer white.

c''. Chest and breast considerably lighter, as the coppery-red subterminal part of the feathers is wider and the dark green margins are much narrower..................... 10. *chrysomelas* (p. 392).

d''. Chest and breast considerably darker, as the coppery-red subterminal part of the feathers is narrower and the dark green margins are much broader .. 11. *bianchii*, subsp. n. (p. 393).

δ. Middle of breast and sides of belly purplish coppery red.

e'. Chest- and upper breast-feathers with narrow blackish-blue edges; centre of belly darker, brownish; rump more dark coppery red.... 5. *persicus* (p. 387).

f'. Only on the sides of chest and breast are the feathers more or less edged with black; centre of belly light chestnut-red; rump more golden- or orange-red.

μ'. White collar incomplete in front and extremely narrow, but quite recognisable; chest- and breast-feathers very narrowly (about $\frac{1}{16}$ inch broad) tipped with somewhat light purplish red-bronze and often with a narrow blackish-blue apical shaft-streak; scapulars with little of a blackish-blue apical spot, but without or nearly without black margins; flanks spotted with black and purplish blue .... 9. *zerafshanicus* (p. 391).

ν'. Collar extremely narrow and broadly interrupted in front and behind; chest- and breast-feathers widely (about $\frac{1}{8}$ inch broad) tipped with somewhat dark purplish red-bronze with faint greenish gloss, and on the sides of these parts margined with blackish green; scapulars tipped with blackish-green spots, but with no or hardly any black margins; flanks spotted with blackish green .... 8. *zarudnyi*, nom. n. [(p. 390).

π'. Collar absent or only some white spots, as traces of it, visible; chest- and breast-feathers widely (about $\frac{1}{8}$ inch broad) tipped with somewhat light purplish red-bronze, without greenish gloss and black apical shaft-streaks; scapulars margined and widely tipped with blackish blue.

e''. Feathers on the sides of breast margined and on the flanks tipped with blackish purplish blue .... 6. *principalis* (p. 388).

f''. Feathers on the sides of the breast margined and on the flanks tipped with blackish green or blackish purplish green .... 7. *komarowi* (p 388).

E. Lower back, rump, and upper tail-coverts of a light and more or less dead lavender-blue, greenish- or yellowish-grey, or olive-greenish colour; black tail-bars generally broad.

c. Chest, breast, and flanks uniformly dark green; sides of rump without a rusty-orange patch .... 31. *versicolor* (p. 412).

d. Under parts with more or less golden yellow or copper-red; a rusty-orange patch on each side of the rump.

ε. No white collar or only slight traces of it.

g′. Dark green of the neck extending to the middle of chest and breast.

ρ′. Flanks golden buff; mantle bright sandy red; scapulars bright sandy red or light brownish maroon with lighter edges, but not freckled with whitish or blackish in the centres .... 30. *vlangali* (p. 412).

τ′. Flanks coppery maroon; mantle maroon, scapulars bright maroon with paler tips and black and buff centres........ 29. *elegans* (p. 411).

h′. Dark green of the neck banded in front by the golden yellow, fiery or coppery red of the chest.

υ′. Chest- and breast-feathers broadly margined with black, this black having a dark green gloss; middle of breast and sides of belly slightly glossed with purplish green; flanks buff .. 26. *decollatus* (p. 409).

φ′. Chest- and breast-feathers narrowly margined with black; flanks darker.

g″. Darker; mantle fiery orange with narrow wedge-like apical streaks of blackish green; broad scapular margins dark maroon-red; chest and breast bright fiery chestnut-red, feathers edged with purplish green; flanks bright chestnut-red tipped with purplish green; middle of breast and sides of belly dark green; tail more rufous-grey ...... 27. *strauchi* (p. 410).

h″. Paler: mantle buffy yellowish with large apical spots of blackish green; broad scapular margins buffy rufous-red; chest and breast rufescent golden, feathers edged with blue; flanks light rufescent golden tipped with blue; tail more whitish grey .... 28. *berezowskyi* [(p. 411).

η. White collar present, but narrow, and completely or nearly interrupted in front.

i′. Chest- and breast-feathers broadly margined with blackish green; general colour very pale.

χ′. Scapulars margined with sandy brown; general colour of mantle and flanks yellowish buff; chest glossed with pink; rump mostly grey; superciliaries completely or nearly wanting .... 17. *satscheuensis* [(p. 398).

ψ′. Scapulars margined with red-maroon; general colour of mantle and flanks very pale primrose; chest slightly glossed with pink; rump more greenish; white superciliaries better marked .. 18. *formosanus* (p. 398).

j′. Chest- and breast-feathers not margined or very narrowly margined with blackish blue; general colour bright.

ξ′. Wing-coverts ashy grey; rump mostly grey; whitish superciliaries sufficiently marked; nape somewhat better differentiated from hind-neck by its dull rusty-brownish colour .... 24. *kiangsuensis*, [subsp. n. (p. 407).

ζ′. Wing-coverts olive-sandy-grey; rump mostly olive greenish; nape more glossed and scarcely differentiated from the hind-neck.

i″. Mantle and flanks paler, golden yellow; superciliaries narrow and dirty, but visible; collar complete behind .... 25. *gmelini*, sp. n. (p. 408).

j″. Mantle and flanks brighter, golden orange; superciliaries scarcely visible or completely wanting; collar often incomplete behind .... 23. *holdereri* (p. 406).

θ. White collar complete and very broad, even in front.

k′. Black patch under the ear with a white spot; superciliaries white, broad and nearly meeting in front; general colour of mantle and flanks very pale; scapular margins maroon; chest-feathers with narrow, if any, blackish-blue margins; front and sides of the neck more purplish blue than green.

s′. Wing-coverts ashy grey; crown and nape somewhat lighter, slightly more sandy yellow; mantle rather paler, more straw-yellowish; rump somewhat greyer .... 19. *alpherakyi*, sp. n. (p. 399).

ω′. Wing-coverts creamy or sandy grey; crown and nape somewhat darker, a little more rusty brown; mantle slightly brighter, more golden yellowish; rump somewhat more olive .... 20. *ussuriensis*, sp. n. (p. 403).

l′. Black patch under the ear with no white spot.

a′. General colour exceedingly pale; mantle and flanks straw-yellow; scapular margins rufous buff; crown more yellowish olive; superciliaries snow-white and very broad; front and sides of the neck more greenish; wing-coverts bluish grey; rump more mottled .... 21. *hagenbecki* (p. 405).

β′. General colour very dark; mantle and flanks intense golden orange; scapular margins dark maroon or chocolate-rufous; crown more rusty brown; superciliaries narrower and partly chestnut-stained; front and sides of neck more purplish blue; wing-coverts sandy or creamy grey; rump not much mottled .... 22. *karpowi* (p. 405).

[N.B.—In describing the colours, I hold the birds between myself and the light, the head being towards the light.]

1. Phasianus colchicus Linn. (*Rion Pheasant.*)

Ph. colchicus: 1758, Linn. Syst. Nat. p. 158 ("rufus, capite cæruleo. Habitat in Africa, Asia"); 1893, Ogilvie-Grant, Cat. Gall. p. 320 (pt., *cum subsp. septentr.*); 1897, Wilkonsky, Ornith. Faun. of Adsharia, Gooria, and N.E. Lasistan (Russ.), p. 65; 1903, Dresser, Manual, p. 658 (pt., *cum subsp. septentr.*).

The typical *Ph. colchicus* inhabits the western part of Transcaucasia: the basins of the Rion and Chorokh and the south-eastern and eastern coasts of Black Sea, not further north than Sukhum-kale. It is completely separated from all the allied forms by mountain-chains.

2. Phasianus colchicus septentrionalis Lorenz. (*Caucasian Pheasant.*)

Ph. colchicus: 1811, Pallas, Zoogr. ii. p. 83; 1887, Th. Lorenz, Beitr. Ornith. Nordseite Kaukas. p. 56; 1893, Ogilvie-Grant, Cat. Gall. p. 320 (pt., *cum colchica ave*); 1903, Dresser, Manual, p. 658 (pt., *cum colch.*).

Ph. colchicus L., subsp. *septentrionalis*: 1888, Th. Lorenz, J. f. O. p. 571 (Kuban, Terek).

This well-marked form inhabits the basins of the Kuban, Terek, and Kuma up to some 2000–2500 feet, and the western coast of the Caspian from the mouths of the Volga nearly to the Apsheron Peninsula. In the central parts of its range, from Stavropol to Georgievsk, it was exterminated in the last half of the nineteenth century.

3. PHASIANUS COLCHICUS LORENZI, subsp. nov. (*Kura Pheasant.*)

Ph. colchicus: 1885, Radde. Ornis Cauc. p. 289 (pt.); 1888, Th. Lorenz, J. f. O. pp. 571-2 (Tiflis, "typisch").

Ph. talischensis; 1893, Ogilvie-Grant, Cat. Gall. p. 324 (Alazan R.) (pt., *cum Ph. talischensi*); 1903, Dresser, Manual, p. 660 (pt.).

Phasiano *talischensi* similis, cum eo a vera *colchica* ave *septentrionalique* varietate plumis juguli subacutis cæruleoque angustius marginatis, abdomine non nigro sed latericio-fusco, pectore medio non viridescente sed cupreo-rubro valde differt; a *talischensi* coloribus pallidioribus alarum caudæque et plumis juguli latius marginatis distinguendus.

Habitat ad Curam fluvium Alazanumque in Transcaucasia.

The Kura Pheasant inhabits the central and eastern parts of Transcaucasia; the basins of the Kura and lower Araxes, with their tributaries up to some 2500-2800 feet above the sea-level, but not the Caspian coast north of the Kizil-Agatch Gulf. From its western and northern allies it is separated by high mountains, and is perhaps quite specifically distinct; but to the south-eastern *Ph. talischensis* it bears a much closer resemblance, and is certainly only a subspecies of it. It meets with the Talysh bird somewhere on the western coast of Kizil-Agatch.

I propose to name this bird after Mr. Th. C. Lorenz of Moscow, who in 1888 very ably pointed out its differences from *Ph. septentrionalis* and *Ph. talischensis*, but unfortunately could not at the time compare it with the Rion bird. Otherwise with his usual acuteness and his well-trained eye he would most certainly have separated them.

4. PHASIANUS COLCHICUS TALISCHENSIS Lorenz. (*Talysh Pheasant.*)

Ph. colchicus: 1876, Blanford, East. Pers. ii. p. 272 (Resht, Mazanderan); 1885, Radde, Orn. Cauc. p. 289 (pt.).

Ph. persicus Swz., subsp. *talischensis*: 1888, Th. Lorenz, J. f. O. p. 572 (Talisch).

Ph. talischensis: 1893, Ogilvie-Grant, Catal. p. 324 (pt., *cum Ph. lorenzi*); 1903, Dresser, Manual, p. 660 (subsp. of *colchicus*).

Ph. persicus talyschensis: 1896, Zarudny, Orn. Faun. Transcasp. p. 475 (Resht, ? Sari) (Russ.).

This Pheasant inhabits the lowlands of the south-western Caspian coast: Lenkoran (formerly in the khanat of Talysh), and the Persian province of Ghilan. How far east it ranges along the southern Caspian coast I do not know. Mr. N. A. Zarudny states that two specimens from Sari (Eastern Mazanderan) are identical with the Talysh bird, but further investigation may prove Mazanderan birds to be more or less distinct. Here, in Mazanderan, the ranges of *Ph. talischensis* and *Ph. persicus* meet. Somewhere near the north-western shore of Kizil-Agatch it meets with an only subspecifically distinct form, *Ph. lorenzi.*

Ph. talischensis is, of course, nearer to *Ph. persicus* than any other Pheasant of the Caucasian group, but it is sharply distinguished by the colour of the wing-coverts (a very constant feature among the western red-rumped Pheasants), so that the two must stand as specifically distinct.

5. PHASIANUS PERSICUS Sewertzow. (*Persian Pheasant.*)

Ph. colchicus, var.: 1870, Poelzam, Proceed. Kasan. Soc. Natur. (Russ.), i. p. 140 (nec Linn., 1758).

Ph. persicus: 1875, Sewertzow, Bull. Soc. Nat. Mosc. xlviii. 3 (1874, but publ. in 1875), p. 208 (southern shore of Caspian); 1893, Ogilvie-Grant, Cat. p. 324; 1896, Zarudny, Orn. Faun. Transcasp. (Russ.), p. 476; 1903, Dresser, Man. p. 661.

Ph. shawi: Elliot, Ibis, 1876, p. 132 (nec Elliot, 1870).

Ph. komarowi: 1885, Zarudny, Oiseaux de la Contrée Transcasp., in Bull. S. Nat. Mosc. lxi. 1, pp. 277, 322 (Tchirin Tchai, Kizyl-kan) (descr. null.).

The Persian Pheasant inhabits North-eastern Persia and the south-western part of the Transcaspian province, including the basins of the Atrek and Gurgen (rr. Tchirin-Tchai, Kizyl-kan, Sumbar, Chandyr, middle Atrek, Kara-su, Gurgen) and the south-eastern Caspian coast from the left shore of the lower Atrek to the Ashur-ada Isl. and Potemkin Peninsula.

Whether it goes further west in Mazanderan, I do not know. Its southern limit is, in all probability, the Elburz Mountains. In the north it is limited by the lower Atrek R. and the Kopet-Dah Mts.; and in the east by Mts. Darah-gaz, Kalat-i-Nadir, and others, which form the water-parting between the basins of the Atrek and the Heri-rud. Thus in geographical position, as in external appearance, *Ph. persicus* stands between the dark-winged and brownish-bellied Caucasian Pheasants and the white-winged and maroon-rufous-bellied birds of the *Ph. principalis* group.

6. PHASIANUS PRINCIPALIS Sclater. (*Murghab Pheasant.*)

Ph. principalis: 1885, Sclater, P. Z. S. p. 322 (Bala-Murghab); 1889, Zarudny, Bull. Soc. Nat. Mosc. p. 813 (pt., cum *Ph. komarowi*); 1890, Zarudny, Rech. Zool., in B. S. N. Mosc. p. 309 (pt.); 1893, Ogilvie-Grant, Cat. p. 325 (pt., *cum Ph. komarowi*); 1896, Zarudny, Orn. F. Transcasp. (Russ.), p. 477 (pt., *cum Ph. kom.*); 1903, Dresser, Man. p. 660 (pt.).

The typical *Ph. principalis* inhabits the Afghan and Russian parts of the Murghab basin and the oases of Merv, Yelotan, and Pandj-deh, ranging N.E. to Repetek, but does not occur in the valley of the Kushk.

The N.E. deserts separate this bird from its well-differentiated race *Ph. zarudnyi*, and from the black-bellied Turan Pheasants. From its nearest ally, *Ph. komarowi*, it is separated by the desert to the west and by the Paropamisus to the south-west. Whether it ranges further east, in the Sangalak valley, I do not know.

7. PHASIANUS PRINCIPALIS KOMAROWI Bogdanow. (*Tejend Pheasant.*)

Ph. komarowi: 1886, Bogdanow, Bull. Ac. Sc. St. P. xxx. p. 356 (Askhabad).

Ph. principalis: 1889, Zarudny, Bull. S. N. Mosc. p. 813 (pt., *cum Ph. princ.* vero); 1890, Zarudny, Rech. Zool., in Bull. S. N. M. p. 309 (pt.); 1893, Ogilvie-Grant, Cat. p. 325 (pt.); 1896, Zarudny, Orn. F. Transcasp. (Russ.),

p. 477 (pt.); 1903, Dresser, Manual, p. 660 (pt.); 1903, Zarudny, Birds of Eastern Persia (Russ.), in Mém. Géogr. gén. I. Russ. G. Soc. xxxvi. 2, p. 76 (Heri-rud).

Ph. komarowi inhabits the Tejend (Heri-rud) basin and the rivulets that flow from the slopes of the Darah-Gaz and Kalat-i-Nadir to the plains of Tejend: Dushak, Kaahka, and Lutfabad. In 1898 Mr. Zarudny found it numerous enough on the Heri-rud, between Pash-Robat and Kafir-Kala, but it has not yet been traced further to the south-east. In Ahal-Teke it is now exterminated, and ranges west only to Baba-Durmas, some 75 kilom. east from Askhabad by rail. Its range is bordered by the Kara-Kum sands to the north, by the water-parting of the Caspian and Inland basins to the west, south-west, and south; by the Paropamisus to the north-east, and by a narrow belt of waterless plains to the east, where the nearly allied, but on the whole distinguishable, *Ph. principalis typicus* has its home.

The Tejend Pheasant was discovered in 1883 by the indefatigable traveller Zarudny, to whom the political storms then prevailing in the Turcoman country were no drawback to scientific work; but the notes which he sent with the skin to the late Prof. Bogdanow were not published till 1886. Meanwhile Mr. Sclater had described in 1885 the nearly allied Murghab bird, *Ph. principalis,* which was incorrectly identified with Mr. Zarudny's Askhabad Pheasant. They are very much alike, it is true, but the western (Askhabad-Tejend) form is quite recognisable (as Mr. Zarudny himself afterwards allowed) by the greenish gloss of the black flank-spots, which is not seen in Murghab birds (I have studied some dozen of these last), if they are examined, as is my usual custom, with the head to the light and between the observer and the light. This feature was noted in Prof. Bogdanow's diagnosis (" plumis singulis in corporis lateribus aurantiacis, fascia lata terminali viridi-nigra ornatis "). This difference between greenish- and purple-blue gloss is certainly not striking, but still I consider that recognisably different birds should bear different names, and I think that Bogdanow's name "*komarowi*" should be used for the Tejend bird, though Mr. Zarudny himself in 1885 (*cf. supra*) wrongly identified Sewertzow's

Ph. persicus from Tchirin-Tchai and Kizyl-Kan with his own Askhabad bird, and called it "*Ph. komarowi,*" without, however, giving a description of it.

For those who consider that this error invalidates the name "*komarowi,*" I propose to name the Tejend Pheasant *Phasianus principalis bogdanowi.*

8. PHASIANUS PRINCIPALIS ZARUDNYI, nom. nov. (*Zarudny's Pheasant.*)

Ph. principalis: 1891, Zarudny, Note on a new Variety of Pheasant (*Ph. principalis* Sclat. var. *klossowskii* Tarn.) (Russ.), p. 2 (Daragan-Ata).

Ph. medius: 1896, Zarudny, Ornith. Faun. Transcasp. (Russ.), p. 481 (from Khiva to Chardjui) (nec *Ph. medius* Milne-Edwards, 1870, Ois. foss. Fr. ii. p. 242).

The range of Zarudny's Pheasant is confined to the valley of the middle Amu Daria (Oxus), from Petro-Alexandrovsk, in the southern part of Khiva, to Chardjui, and perhaps somewhat higher up the river.

In the north-west its range overlaps that of *Ph. chrysomelas,* as is also probably the case with *Ph. bianchii* in the south-east, somewhere between Chardjui and Karki, but it needs no close comparison with these black-bellied green-breasted birds. To its north-eastern neighbour, *Ph. zerafshanicus,* Zarudny's Pheasant is nearer than any other rufous-bellied Pheasant (nearer in appearance, as well as in range), but it is much nearer still to *Ph. komarowi,* and, as it seems, only subspecifically distinct from it, the points of difference being fully shown in the synoptical table.

Mr. Zarudny collected some sixteen specimens of this bird, and fully described it (under the name *Ph. medius,* unfortunately preoccupied), comparing point after point with *Ph. chrysomelas, Ph. principalis,* and *Ph. klossowskii* (=*zerafshanicus*). To this description Mr. M. A. Menzbier added a footnote, stating that Zarudny's Pheasant is quite identical with *Ph. principalis* or—if distinguishable—needs no particular name, being only a cross between *Ph. principalis* and *Ph. chrysomelas.* It seems rather rash to deny the claims of a bird to distinctness on the ground that it may be, *or may* *not be,* undistinguishable from some other form. But, in fact, *Ph. zarudnyi* is a very well-differentiated form. As to cross-breeding, it is quite likely that *Ph. chrysomelas* may sometimes, on the borders of Khiva, interbreed with *Ph. zarudnyi,* as it does, in fact, with *Ph. mongolicus turcestanicus* on the eastern shores of the Aral Sea. Nevertheless M. Menzbier does not deny that *Ph. chrysomelas* and *Ph. mongolicus* may need separate names. And hybridisation on any large scale is not proved and is highly improbable.

Parent birds *must* meet somewhere to produce a hybrid, and the ranges of the parent species must be very close together in order to allow them to meet often in the case of such sedentary birds as Pheasants. Certainly *Ph. zarudnyi* is somewhat intermediate between *Ph. principalis komarowi* and *Ph. zerafshanicus* (not *Ph. chrysomelas*), but an evolutionist should find a more plausible explanation of the fact, instead of inventing the somewhat ridiculous hypothesis that a fairly vast area is inhabited exclusively by hybrids. From Chardjui to Petro-Alexandrovsk, a distance of some 370 kilom. in a straight line, neither *Ph. principalis typicus,* nor *Ph. princ. komarowi,* nor *Ph. zerafshanicus* are met with, and very few (if, indeed, any) *Ph. chrysomelas.* So we may take it for granted that *Ph. zarudnyi*—whatever pedigree it might have had in epochs long ago—propagates now *inter se* and breeds true.

9. PHASIANUS ZERAFSHANICUS Tarnovski. (*Zerafshan Pheasant.*)

Ph. zerafshanicus: 1891, Tarnovski, Field, lxxvii. p. 409; 1893, Ogilvie-Grant, Catal. p. 326.

Ph. klossowskii: 1891, Tarnovski, l. c.; 1896, Zarudny, Orn. Faun. Transcasp. (russ.), p. 483.

Ph. principalis, var. *klossowskii*: 1891, Zarudny, Note on a new Subspecies of Pheasant (Russ.), p. 1.

Ph. tarnovskii: 1892, Seebohm, P. Z. S. p. 271.

Ph. zarafschanicus: 1903, Dresser, Man. p. 661 (subsp. of *Ph. persicus*).

The Zerafshan Pheasant has been rather unfortunate in its synonymy. Its range is confined to the valley of Zerafshan in Buchara, so that it is the most eastern representative of the little group of rufous-bellied Pheasants, and is by no means a near relative of *Ph. mongolicus*, though it has a white collar just visible, or of *Ph. persicus*, though it somewhat resembles this last in its breast-colour.

In the north the water-parting of the Zerafshan and the Syr-Daria serves as a limit between this bird and *Ph. turcestanicus*, with its black belly, greyish wings, and broad collar (not to mention other points of dissimilarity), and in the south the Gissar Mts. separate it from *Ph. bianchii* with its black belly and blackish-green throat. To the west its range nearly meets that of *Ph. zarudnyi*, as in times of high floods the Zerafshan reaches the Amur-Daria. But, so far as I know, these two birds are specifically distinct, as *Ph. zerafshanicus* seems always to be recognisable at a glance from the members of the group of *Ph. principalis* by its collar and the colouring of the breast. In the Museum of my friend Baron Harald Loudon I have examined specimens from the most western part of its range, and they do not differ from my own specimens from Siadin, and from others that I have seen from still more eastern parts of the Zerafshan valley.

10. PHASIANUS CHRYSOMELAS Sewertzow. (*The Khivan Pheasant.*)

Phasianus, nova sp.: 1875, Bogdanow, Transact. Soc. Natur. St. Petersb. (Russ.), vi. p. lxxxvi (Khiva).

Ph. chrysomelas: 1875, Sewertzow, Bull. S. N. Mosc. xlviii. 3 (dated 1874, but not issued till 1875), p. 207 (Amu-Daria); id. J. f. O. p. 225 (sine descr.); 1893, Ogilvie-Grant, Cat. p. 327; 1896, Zarudny, Orn. Faun. Transcasp. (Russ.), p. 479; 1903, Dresser, Man. p. 662.

Ph. dorrandti: 1875, Sewertzow, J. f. O. p. 225.

Ph. oxianus: 1875, Sew. l. c.

Ph. insignis: 1876, Elliot, Ibis, p. 132 (nec Elliot, 1870).

The Khivan Pheasant inhabits the delta of Amu-Daria and the lower parts of its valley, and the oasis of Khiva.

On the west and south its range is bordered by the Ust-Urt and the waterless sands of the Kara-Kum. On the south-east, from the borders of Khiva up to Chardjui, it is very scarce indeed, if not wholly wanting, being replaced by the rufous-bellied purple-breasted *Ph. zarudnyi*. To the north-east it meets somewhere on the shores of the Aral Sea with *Ph. turcestanicus*, a broadly collared form of *Ph. mongolicus*. Mr. Ogilvie-Grant (*l. c.*), citing Th. Pleske (Mém. Ac. Sc. St. P. xxxvi. no. 3, p. 48), adds "Kasalinsk" as locality, but Mr. Pleske expressly states that his birds, although purchased in Kasalinsk on the Syr-Daria, had been brought from the Oxus.

11. Phasianus chrysomelas bianchii, subsp. nov. (*Bianchi's Pheasant.*)

"?" *Ph. chrysomelas*: 1886, Bianchi, Zur Ornis der westlichen Ausläufer des Pamir und des Alai, in Mél. biol. t. xii. l. 5, p. 677 (Kafirnagan, Wachsch); ? 1896, Zarudny, Orn. Faun. Transcasp. (Russ.), p. 480 (? pt., Karki).

Phasiano chrysomelani simillimus, sed pectore juguloque valde obscurioribus, plumarum margine virescenti-nigro latiore, area præapicali autem fulvo-aurea minore; colli plumis albo minus variegatis.

This Pheasant inhabits the upper parts of the Oxus basin. Messrs. Grum-Grzimailo, during their travels in the mountains of Buchara in 1885, met with it in the valleys of Kafirnagan (Dschidda-bach) and Wachsch (Kurgan-Tjube). Dr. V. L. Bianchi has pointed out its differences from the Khivan bird, but has not separated it, on the ground that *Ph. chrysomelas* varies much even in its typical locality. But Mr. Zarudny's explorations now make it evident that the range of *Ph. chrysomelas*, as a whole, is not contiguous, but is broadly interrupted in the middle of the Amu-Daria valley, where only *Ph. zarudnyi* is met with. This geographical isolation makes it advisable to distinguish subspecifically the form of the upper Oxus.

Specimens (killed in May) brought home by Messrs Grum-Grzimailo are in somewhat worn plumage, and in fresh examples the chief differences from the typical form (as well as from *Ph. shawi*) would be more conspicuous.

On the north, east, and south the home of *Ph. bianchii* is limited by high mountains—the Gissar, Alai, Pamir, and Hindu-kush. On the west its limit is not yet quite ascertained. I suppose, however, that the females and chicks met with by N. A. Zarudny and A. L. Iashtchenko in the Oxus valley, from Biy-kala up to Kelif, and the male received by Mr. Zarudny from Karki, would belong to this subspecies. So somewhere between Karki and Chardjui the range of *Ph. bianchii* meets or somewhat overlaps that of *Ph. zarudnyi*.

12. Phasianus shawi Elliot. (*Yarkand Pheasant.*)

Ph. shawi: 1870, Eliot, P. Z. S. p. 403 (Yarkand); 1875, Scully, Str. Feath. iii. p. 433; 1891, Sharpe, Sec. Yark. Miss. p. 120; 1893, Ogilvie-Grant, Cat. p. 326; 1903, Dresser, Man. p. 660.

Ph. insignis: 1870, Elliot, P. Z. S. p. 404 (Yarkand); 1875, Scully, Str. Feath. iii. p. 433.

Ph. chrysomelas: 1877, Elliot, Str. Feath. v. p. 198 (nec Sewertzow, 1875).

Ph. shawi inhabits the western part of Chinese Turkestan, the valleys of the Khotan-Daria, Yarkand-Daria, and Kashgar-Daria, the upper parts of the Tarim, and the lower parts of the Aksu valley. It does not range high up the mountainous parts of the valleys, and the caravan-road from Sanju to Kashgar forms its south-western limit.

The snow-clad chain of Tian-Shan serves as a limit between this most easterly white-winged Pheasant and its northern and north-western neighbours—the copper-throated, white-collared, and silvery-grey-winged *Ph. mongolicus* and *Ph. turcestanicus*. The enormous masses of the Pamirs and Alai separate it from *Ph. bianchii* of the upper Oxus, which is better differentiated from *Ph. shawi* than the typical *Ph. chrysomelas* with its more narrowly-margined chest-feathers.

To the east our bird has no well-defined limits and somewhere in the valley of middle Tarim must meet with the sandy-winged *Ph. tarimensis.* It is not improbable that *Ph. shawi* is subspecifically differentiated in some parts of its vast range, and possibly *Ph. insignis* is slightly distinct, but further material is required to decide these points.

13. Phasianus mongolicus Brandt. (*Kirghiz Pheasant.*)

Ph. torquatus: 1841, Karelin, Bull. S. N. Mosc. p. 561 (Tarbagatai) (nec Gmel., 1788).

Ph. mongolicus: 1844, Brandt, Bull. Ac. Sc. St. P. iii. p. 51 (Altai); 1891, Alphéraky, Kuldja and Tian-Shan (Russ.), pp. 5, 17, 19, 22, 29, 48, 89, 98, 153; 1899, Kozlow, Results of the I. R. G. S. Expedition in C. Asia, 1893–95 (Russ.), ii. p. 5; 1903, Dresser, Man. p. 665 (pt., *cum turcestanica ave*).

Ph. brandti: 1901, Rothschild, Bull. B. O. C. vol. xii. p. 20 (withdrawn in 1903 by the author).

Ph. mongolicus was named, as is often the case, somewhat on the *lucus a non lucendo* principle, as it does not inhabit Mongolia, but the Kirghiz country in the north-eastern parts of Russian Turkestan (province of Semiretshensk and part of Semipalatinsk) and the Chinese province of Kuldja, that is the basins of Lakes Issyk-kul, Balkash, Ala-kul, and Zaisan, with their tributaries. About 48° to 48½° N. is its northern limit; to the east it ranges in the Tian-Shan high up into the valleys of Tekes and Kunges, tributaries of the Ili.

On the south-east the Tian-Shan serves as the boundary between our bird and *Ph. shawi*, on the south-west the Alexander and Karatau Mountains form a similar boundary between it and *Ph. turcestanicus.* On the east, parts of the Tian-Shan, Alatau, and Tarbagatai ranges separate it from the closely allied *Ph. semitorquatus*, and on the north-east the Ektagh Altai divides it from *Ph. hagenbecki*, which belongs to the eastern grey-rumped group of Pheasants. Whether it is limited on the west by the Muiun-Kum sands and the steppe of Hunger, I cannot say. In the southern part of the Turgai Province Pheasants are found (*M. N. Aristow, in litt.*), but not having yet received skins, I cannot decide whether they belong to this or to the following form.

14. PHASIANUS MONGOLICUS TURCESTANICUS Lorenz. (*Turkestan Pheasant.*)

Ph. colchicus: 1823, Lichtenstein, Naturh. Anh. to Eversmann's Reis. Buchar. p. 133 (Kuwan-Darja, Ian-Darja) (nec Linn., 1758); 1866, Eversmann, Natural History of the Orenburg country (Russ.), iii. p. 350 (var. *torque colli alba*, Aral).

Ph. mongolicus: 1873, Sewertzow, Vertic. and Horizont. Distribution of Turkest. Animals (Russ.), in Transac. I. S. F. N. A. E. v. viii. pt. 2, p. 68 (nec Brandt, 1844); 1893, Ogilvie-Grant, Cat. p. 328 (nec Brandt); 1897, Stolzmann, Bull. S. N. Mosc. n. 1, p. 78 (nec Br.); 1903, Dresser, Manual, p. 665 (pt., *cum typ.*).

Ph. mongolicus turcestanicus; 1896, Lorenz, Orn. Mon. p. 189 (Syr-Daria).

This Pheasant ranges through Russian Turkestan, from the north-eastern shores of the Aral Sea along the valley of Syr-Daria as far east as Gulcha, a valley in the Alai some 5000 feet in altitude and about 140 kilom. south of Osh.

Its range is bordered by parts of the Tian-Shan and Alai Mts. in the south-east, and by the Alai and Gissar Mts. in the south, these chains separating it from *Ph. shawi*, *Ph. bianchii*, and *Ph. zerafshanicus*. To the west the Kysyl-Kum Sands separate it from *Ph. chrysomelas*, but on the shores of the Aral Sea their ranges meet. To the north-east the Karatau, Alexander, and Terskentau Mts. form its boundary from the closely allied, but perfectly distinguishable, *Ph. mongolicus*.

15. PHASIANUS MONGOLICUS SEMITORQUATUS Sewertzow. (*Dzungarian Pheasant.*)

Ph. semitorquatus: 1875, Sewertzow, Ibis, p. 491 (N.E. of Kuldja); 1893, Ogilvie-Grant, Cat. p. 329; 1896, Lorenz, Orn. M. p. 190 (Manas, Chiho); 1903, Dresser, Man. p. 665 (subsp. of *Ph. mong.*).

Ph. mongolicus semitorquatus: 1892, Pleske, Bull. Ac. St. P. xiii. p. 295; 1899, Kozlow, Res. I. R. G. S. Exp. Centr. As. (Russ.), ii. p. 286.

This Pheasant, which is much more nearly allied to the typical *Ph. mongolicus* than *Ph. turcestanicus,* inhabits the southern part of Dzungaria, westwards as far as the basin of Lake Ebinor, and eastwards to Guchen.

The Tian-Shan forms its southern boundary, on the other side of which *Ph. tarimensis* is found, and to the south-west, west, north-west, and north it is divided by the Boro-Khoro and Alatau Mts. from the typical *Ph. mongolicus.*

16. Phasianus tarimensis Pleske. (*Tarim Pheasant.*)

Ph. shawi : 1877, Przewalski, Proc. Imp. Russ. Geogr. S. (Russ.) xiii. p. 275 (Lob-nor) (nec Elliot, 1870).

Ph. tarimensis : 1883, Przewalski, From Zaissan through Khami to Tibet (Russ.), p. 95 (descr. nulla) ; 1888, Pleske, P. Z. S. p. 415 ; 1893, Ogilvie-Grant, Cat. p. 327 ; 1899, Kozlow, Res. Imp. Russ. Geogr. S. Exped. C. As. (Russ.) ii. pp. 74, 286 (Konche-Daria) ; 1903, Dresser, Man. p. 662 (subsp. of *Ph. persicus*).

This Pheasant is confined to the eastern parts of Chinese Turkestan—namely, the lower Tarim and Cherchen-Daria and the lakes Bagrach-kul and Lob-nor. It was discovered by Przewalski, but, so far as I know, its first description was published by Pleske.

From *Ph. vlangalii* in the south-east it is divided by the enormous wall of the Altyn-Tag, and from *Ph. semitorquatus* on the north and *Ph. mongolicus* on the north-west by the equally high Tian-Shan ranges. To the east the Kum-Tag sands form its boundary from the grey-rumped *Ph. satscheuensis,* and on the west, somewhere on the middle Tarim, its range coalesces with that of the rufous-rumped *Ph. shawi.*

In its appearance *Ph. tarimensis,* with its greenish-buffy tinge on the rump, seems somewhat intermediate between the western coppery-red and the eastern olive-grey rumped birds ; but it is evidently much more closely allied to the first-named group, especially to *Ph. shawi,* and is quite readily distinguished from all its neighbours by its yellowish-brown wing-coverts. *Ph. shawi* has the coverts somewhat yellowish white, *Ph. mongolicus* has them silvery greyish white, *Ph. vlangalii* ashy grey somewhat tinged with greenish, and *Ph. satscheuensis* lavender-grey.

17. PHASIANUS SATSCHEUENSIS Pleske. (*Sachjow Pheasant.*)

Ph. satscheuensis: 1883, Przewalski, From Zaissan through Khami to Tibet (Russ.), p. 95 (descr. nulla); 1892, Pleske, Bull. Ac. St. P. xiii. p. 296; 1899, Kozlow, Res. I. Rus. Geo. S. Exp. C. As. (Russ.) ii. pp. 107, 113, 286.

Ph. shawi: 1888, Seebohm, P. Z. S. p. 415 (pt.).

Ph. satscheunensis: 1893, Ogilvie-Grant, Cat. p. 333.

Ph. satchuensis: 1903, Dresser, Man. p. 667 (subsp. of *Ph. torquatus*).

The range of this Pheasant is restricted to the Sachjow oasis and its environs on the northern slopes of the Nan-Shan, and to the valleys of Dan-khe and Su-lei-khe (Bulunzir) up to 7000 feet, along with Lake Hala-chi. It was discovered and named by Przewalski, but was described by Pleske *. Numerous and very interesting biological notes are added by Mr. P. K. Kozlow.

The Sachjow Pheasant is, at a glance, distinguishable not only from its western neighbour *Ph. tarimensis*, but also from *Ph. vlangalii* and *Ph. strauchi*, which occur on the other side of the Nan-Shan, by its general pale colour and white collar, and from *Ph. holdereri*, which occurs a long way off to the east, by the brownish-margined scapulars, grey-covered wings, and other particulars.

18. PHASIANUS FORMOSANUS Elliot. (*Formosan Pheasant.*)

Ph. torquatus: 1863, Swinhoe, Ibis, p. 401 (pt.).

Ph. formosanus: 1870, Elliot, P. Z. S. p. 406; 1877, David et Oustalet, Ois. Chin. p. 710; 1893, Ogilvie-Grant, Cat. p. 333.

This Pheasant inhabits Formosa, and has many features to distinguish it from the continental Ring-Pheasants. Even its iris is stated to be white, not yellow.

A statement has been made that similarly pale-flanked specimens are sometimes met with in China and Corea, but this is somewhat doubtful. All the Corean birds that I have seen or heard of (*Mr. Ernst Hartert, in litt.*) are darker than the darkest Chinese Ring-Pheasants (I have recently named them *Ph. karpowi*, see below, p. 405). Certainly in the most northern parts of Corea *Ph. ussuriensis* may occur, and pale "Chinese" specimens may turn out to be *Ph. alpherakyi* from Northern Manchooria; but these two Pheasants have nothing to do with *Ph. formosanus* or the other true Chinese Ring-Pheasants, being quite different specifically. Ornithologists have managed to make such a "ragoût fin" of the eastern White-collared Pheasants that it is not easily digested.

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* I have not consulted the German edition of Przewalski's 'Travels to Tibet,' as there are no copies of it in libraries of the Academy of Science or the Geographical Society, but, so far as I know, it is a verbatim translation from the Russian.

19. PHASIANUS ALPHERAKYI, sp. nov. (*Sungarian Pheasant.*)

Ph. colchicus: 1811, Pallas, Zoogr. ii. p. 83 (nec L., 1758) ("*varietas torque alba in Mongolorum desertis*").

Ph. torquatus: 1860, Schrenck, Vög. Amurl. p. 402 (pt., Amoor, but not Macao in S.E. China); 1863, Radde, Festl. Orn. S. O.-Sib. p. 303 (pt.); 1877, David et Oustalet, Ois. Chin. p. 409 (pt.: var. "A"); 1893, Taczanowski, Faun. Orn. Siber. Or., in Mém. Ac. St. P. sér. 7, xxxix. p. 785 (pt.); Ogilvie-Grant, Cat. p. 331 (pt.).

Ph. torquatus mongolicus: 1901, Rothschild, Bull. B. O. C. xii. p. 21 (nec Brandt, 1844), subsequently withdrawn by the author (pt., *cum Ph. karpowi*).

Ph. torquatus pallasi: 1903, Rothschild, Bull. B. O. C. xiii. p. 43 (pt., *cum Ph. karpowi*).

Ph. hagenbecki: 1903, Tegetmeier, Field, vol. ci. p. 775; id. vol. cii. p. 232; 1904, Tegetmeier, Pheasants, p. 190 (figura bona) (nec Rothschild, 1901).

Pallidus, torque integra alba latissima, superciliis latis et longis maculaque postoculari albis; pileo uropygioque cyaneo-olivascentibus obsolete virenti nitore, scapularibus margine castaneo-rubiginoso, juguli plumis angustissime cæruleo-nigro marginatis, tectricibus alarum ex majore parte cærulescenti-canis.

Habitat in Manchuria centrali, circa Sungari fluvium.

Ph. alpherakyi inhabits the central and northern parts of Manchooria and probably N.E. Mongolia. It is abundant on the middle Sungari, and great quantities of these birds have been brought during the last two years to the markets of

Moscow, St. Petersburg, and London from Kharbin (*Th. C. Lorenz, in litt.*). It extends eastwards to lake Khanka, whence I have a specimen in my collection, but not to the Ussuri and the coast of the Japanese Sea, being there replaced by the closely allied *Ph. ussuriensis*. It extends north to the mouth of the Sungari and the neighbouring parts of the Amoor Valley up to Ekaterino-Nikolsk in 48° N. lat. Thus the Amoor and the Little Khinghan Mts. form its northern limit. In the south, somewhere near Ghirin, its range coalesces with that of the strikingly different *Ph. karpowi* of Southern Manchooria and Corea. Further to the west it occurs near Tsitsikar, but in these days it is not found on the Dalai-Nor and Argun River (as was the case in the time of Pallas), and I suppose that the Great Khinghan Mts. limit its range here. Pallas mentions the River Shara-Muren (tributary of Lao-khe?) as its locality, but most probably he was misinformed, as the Shara-Muren bird is *Ph. kiangsuensis*.

It is most annoying to be obliged to add more names to the already overburdened list of ornithological synonyms and to rename the bird described a century ago with the clearness and exactness usual to the unrivalled genius of Pallas, but I see no other way out of it. Pallas, unfortunately, gave no name to this bird, and Mr. Rothschild's attempt to use part of Pallas's narrative as a name for it was quickly abandoned by the author himself.

To use Gmelin's unhappy name "*Ph. torquatus*" is quite out of the question: his diagnosis [Syst. Nat. xiii. ed. 1788, i. pt. ii. p. 744: "*torquatus*, *β. Ph.* torque albo"] mentions only the white collar, but in China and the adjoining countries (Mongolia, Ussuri-land, &c., that formed part of the Chinese Empire in Gmelin's time) there are found at least nine different forms of Ring-Pheasants, six of them (*Ph. hagenbecki, Ph. alpherakyi, Ph. karpowi, Ph. formosanus, Ph. satscheuensis,* and *Ph. holdereri*) quite distinct specifically; and I do not include here *Ph. mongolicus,* which in fact inhabits a part of the Chinese Empire (Kuldja and Dzungaria). Gmelin gives no locality for his "*Ph. torquatus*," and Latham, cited by Gmelin, names various provinces of China and Mongolia. Evidently it is quite impossible to decide what sort of bird Gmelin's *Ph. torquatus* was. Mr. Rothschild and many others think that his type was a South-Chinese bird. Seebohm and Bianchi are inclined to take the N.E. Mongolian bird as typical, but all this remains and must remain only guesswork, and "*Ph. torquatus*" of Gmelin can only be cited as a "synonym in partibus" under *Ph. alpherakyi*, *Ph kiangsuensis*, and *Ph. gmelini*.

Recent authors have mentioned under Gmelin's name several quite distinct species, as North Manchoorian *Ph. alpherakyi* cannot be considered as conspecific with the Eastern and Southern Chinese Ring-Pheasants. Not only is it quite different in general colour, being very pale even in comparison with moderately bright examples of *Ph. gmelini* from Foo-chow, but several other sharply marked characters distinguish it—for instance, the uninterrupted broad collar, the white post-ocular patch, &c.; and there are no intermediate forms, as the other pale-coloured Ring-Pheasants, which inhabit far remote areas, do not share in these characters, but possess their own features which are quite as sharply defined.

Last, but not least, Mr. Rothschild's well-chosen name "*Ph. pallasi*" must unfortunately be declined, as being unmistakably based on two distinct species.

Mr. Rothschild gives as the range of his *Ph. torquatus mongolicus* (subsequently renamed by him *Ph. torquatus pallasi*) "N.E. Mongolia, Amur, and Corea," and his description confirms the fact that he had before him both Pheasants from Amoorland, my *Ph. alpherakyi* or its eastern form, so well described by Pallas, and Pheasants from Corea, described by me some months ago under the name *Ph. karpowi*. Mr. Rothschild's description is as follows:—

"Crown and occiput olive-brown instead of olive-green [as in Shanghai birds, my *Ph. kiangsuensis*], this point fits more or less both the Amoor and Corean birds; the superciliary stripes are very broad, uniting on the forehead, and of a brownish-buff colour mixed with buffy white, instead of greenish-whitish buff [as in *Ph. kiangsuensis*; this point evidently is intended for Amoor birds, as the superciliaries of Corean birds are not so broad and long, widely interrupted in front, and tinged in upper parts not with brownish buff—very pale brownish buff indeed—but with dark rusty or maroon-red], with a nearly complete green collar below the white ring [purely individual character, as Mr. Rothschild afterwards satisfied himself (*Mr. E. Hartert, in litt.*)]. The flanks are darker buff [than in Shangai birds: this applies only to Corean birds, *Ph. karpowi* being in fact the darkest of all the Ring-Pheasants; but Amoor birds have the flanks of a much paler colour than the Kalgan, Shanghai, or even Foo-chow Ring-Pheasants], the breast-feathers having the violet borders much narrower or obsolete. The rump is brownish olive instead of greenish lavender-blue, the sides of the rump being of a dirty orange colour [this is true in Corean birds, the rump being of a very brownish olive, while the rump of the Amoor bird is of a much more greenish lavender-blue]. The broad borders of the scapulars are duller chocolate-red [quite true in Corean birds, but Amoor birds have somewhat paler scapulars than *Ph. kiangsuensis*]." Mr. Rothschild adds: "The Corean bird may prove to be a third subspecies, as some birds have very pale flanks." As I have just stated, all the Amoor specimens (true *Ph. alpherakyi* and its eastern subspecies *Ph. ussuriensis*) have pale flanks, but Corean and South Manchoorian specimens have the darkest flanks of any Ring-Pheasant. I have one specimen from Te-lin, the type of my *Ph. karpowi*, in my own collection, two similar Corean birds are in the Zoological Museum of the Academy of St. Petersburg, and Mr. Rothschild himself and Mr. Hartert were so kind as to compare my specimen with Corean examples in the Tring Museum and have found them to be identical. I may say, that so accurate an observer as Taczanowski mentions that the Corean Pheasants have "toutes les couleurs plus foncées."

I may add that there are no grounds for giving to the Corean Pheasant only subspecific rank. In the colour and in the form of its supercilia it is somewhat intermediate between the Amoor and East-Chinese birds, and in the completeness of its collar it resembles the former; but in general colour it is by no means intermediate between them, as it is much darker than either, and by this feature alone is, at a glance, distinguishable from the Amoor bird. Further, *Ph. alpherakyi* (and its subspecies *Ph. ussuriensis*) have a small, but very good, distinguishing character—the white of the ear-patch. The ranges of *Ph. alpherakyi* and *Ph. karpowi* meet, and the possibility of accidental interbreeding cannot be denied: we know, for instance, that *Lyrurus tetrix* interbreeds with *Lagopus albus* and *Tetrastes bonasia*, all three species belonging to distinct genera; but this must be only accidental as no intermediate specimens are known. I have four specimens of the Amoor bird (of both varieties) in my collection, and have closely examined two specimens in the St. Petersburg Academy's Museum and some twenty-five or thirty specimens in the market (brought from Kharbin), but I have seen no intermediate birds.

That such an expert in Pheasant-rearing as Mr. Tegetmeier has several times mentioned and has figured London-market specimens (from Kharbin, *i. e.* true *Ph. alpherakyi*) under the name of a quite distinct species (*Ph. hagenbecki*) can be explained only by the fact that the description of *Ph. torquatus mongolicus* (=*pallasi*) was based on two quite distinct species, and fits the Corean better than the Amoor species.

So this Pheasant must have a new name to itself, and I propose to call it after Mr. S. N. Alphéraky, so well known as a naturalist, who first kindly called my attention to this group of birds, and sent to me for description the first specimen of this species.

20. PHASIANUS ALPHERAKYI USSURIENSIS, subsp. nov. (*Ussurian Pheasant.*)

Ph. torquatus: 1863, Radde, Festl. Orn. Sib. Or. p. 303 (Port May) (pt., *cum amurensi et chinensi avibus*); 1884, Bogdanow, Catal. Avium Imp. Ross. i. p. 21 (Ussuri, descr. bona) (pt.); 1893, Taczanowski, Faun. Orn. Sib. Or., in Mém. Ac. St. Pet. sér. 7, xxxix. p. 785 (pt., Ussuri); 1893, Ogilvie-Grant, Cat. p. 331 (pt.); 1903, Dresser, Man. p. 665 (pt.).

Ph. torquatus mongolicus: 1901, Rothschild, Bull. B. O. C. xii. p. 21 (pt., *cum Ph. karpowi*) (nec Brandt, 1844).

Ph. torquatus pallasi: 1903, Rothschild, Bull. B. O. C. xiii. p. 43 (pt.).

Phasiano alpherakyi simillimus, pallidus et torquatus maculaque postoculari alba, sed pileo paulo obscuriore, olivascenti-terreo, dorso paululo obscuriore, tectricibus alarum arenaceo-lacteis, non cærulescenticanis distinguendus.

Habitat circa Ussuri fluvium et litora maris Japonici.

Ph. ussuriensis replaces the typical *Ph. alpherakyi* in the basin of the Ussuri, whence it occasionally extends to the mouths of the river, and in the southern part of Ussuri-land, where, on the shores of the Japanese Sea, it is not found north of 44° N. lat. On the north-west the water-parting of the Ussuri and Sungari evidently borders its range, but further to the south its limit is as yet uncertain. Perhaps, however, it does not extend further west than the Sikhota-Alin Mts., as I have in my collection a specimen of the typical (western, grey-winged) form from lake Khanka, and another labelled "Vladivostok," but probably obtained at some distance to the westward. To the south somewhere near the Corean boundary its range coalesces with that of *Ph. karpowi*.

Pallas's "*Ph. colchicus* torque alba" is not this form, but the typical *Ph. alpherakyi*, as is evident from his description, and from the range he gives ("alæ secundariæ incumbentibus non luteo-griseis, sed e cærulescenti-canis," Zoogr. *l. c.*); but Mr. Rothschild's *Ph. torquatus mongolicus*—and his *Ph. torquatus pallasi*, so far as it is not based on *Ph. karpowi*—is founded on specimens not of the western Sungarian form, but on sandy-winged birds from Ussuri, Amoor Bay near Vladivostok, and Sidemi, somewhat south of Vladivostok. So I am most kindly informed by Mr. Ernst Hartert, who assisted Mr. Rothschild in comparing my typical specimens of *Ph. alpherakyi* with the types of *Ph. pallasi* at Tring.

My own specimen of *Ph. ussuriensis* comes from Ussuri, and I have examined two examples from Sidemi in the Museum of the Academy of St. Petersburg. These three specimens, as well as those in Tring Museum, are evidently identical with birds that served for Mr. Taczanowski's descriptions of "*Ph. torquatus*" from Ussuri-land, and differ from some thirty or thirty-five specimens from Sungari that I have examined, as also from specimens on the London market (also from Sungari) examined by Mr. Hartert (*in litt.*).

21. Phasianus hagenbecki Rothschild. (*Kobdo Pheasant.*)

Ph. hagenbecki: 1901, Rothschild, Bull. Br. O. C. xii. p. 20 (Kobdo Valley); 1903, Dresser, Man. p. 666 (subsp. of *Ph. torquatus*).

Ph. hagenbecki is found in the valley of Kobdo in the southern Altai. It is the most western representative of the eastern grey-rumped Pheasants, and is only divided from *Ph. semitorquatus* in the south-west by the Ektagh Altai Mts. It is separated from *Ph. alpherakyi* by nearly the whole of Northern Mongolia. This last resembles our bird in its general pale colour (but not quite so pale as in *Ph. hagenbecki*) and in its broad collar, but differs from it in many important points (as shown in the synoptical table above, p. 384).

In the Museum of the Academy of St. Petersburg I have examined two specimens of this bird brought home from Kobdo by Mr. M. M. Berezowsky in 1877.

22. Phasianus karpowi Buturlin. (*Corean Pheasant.*)

Ph. torquatus: 1893, Taczanowski, Faun. Orn. Sib. Or., in Mém. Ac. St. Pet. sér. 7, t. xxxix. p. 788 (pt., Corée); 1893, Ogilvie-Grant, Cat. p. 331 (pt.); 1902, Bianchi, Matér. Orn. Mandchourie, in Ann. Mus. Zool. St. Pét. t. vii. (Te-lin, Southern Manchooria) (nec Gm.).

Ph. torquatus mongolicus: 1901, Rothschild, Bull. B. O. C. xii. p. 21 (pt., *cum ussuriense ave*) (nec Brandt, 1844).

Ph. torquatus pallasi: 1903, Rothschild, Bull. B. O. C. xiii. p. 43 (pt., *cum ussuriense ave*).

Ph. karpowi: 1904, Buturlin, Orn. Monat. xii. p. 3 (Te-lin, Southern Manchooria).

Ph. karpowi extends through Corea, where, however, it is rare south of Seoul, and through Southern Manchooria, north to Ghirin, west to the river Lao-khe and south to Lao-yang (Liau-yang). North of Ghirin, as in the more southern parts of Ussuri-land and in the most north-easterly parts of Corea, *Ph. karpowi* meets with *Ph. alpherakyi* and its eastern subspecies. South from Lao-yang, on the Lao-tung peninsula, and west from the middle and lower parts of Lao-khe there are no Pheasants at all: further west, near Kalgan, *Ph. kiangsuensis* is found.

The type specimen of this Pheasant was obtained 20 Jan. (2 Feb.), 1901, near Te-lin (42° 18′ 27″ N. and 123° 44′ 45″ E.), and was sent to me by Mr. A. W. Karpow, from whom I have received some particulars of its distribution in Southern Manchooria. In the Zoological Museum of the Academy of St. Petersburg I have seen two specimens of *Ph karpowi*—one from Chemulpo (Nov. 1888) and one labelled "Vladivostok" (8/20 Sept., 1882). My type specimen is identical with Corean specimens in the Tring Museum (*Mr. Hartert, in litt.*) and agrees with Taczanowski's description of Corean birds (*l. c.*). Though ranging between the pale *Ph. alpherakyi* and the moderately bright *Ph. kiangsuensis*, the Corean Pheasant is by no means intermediate in appearance, being much darker than the latter and differing from both of them by sharply defined characters, as pointed out in the Table.

23. PHASIANUS HOLDERERI Schalow. (*Shensi Pheasant.*)

Ph. torquatus: 1877, David et Oustalet, Ois. Chin. p. 409 (pt.: var. "C," Chensi meridional); 1891, Berezowski and Bianchi, Birds of Kan-su Expedition Potanin (Russ.), p. 18 (W. and E. Ordos); 1893, Ogilvie-Grant, Cat. p. 331 (pt.); 1903, Dresser, Man. p. 665 (pt.).

Ph. holdereri: 1901, Schalow, J. f. Orn. p. 414 (Min Tschou).

Ph. holdereri inhabits the provinces of Shensi and Southern Kan-su (where, however, it is evidently rare) and Ordos.

I cannot trace its limits with certainty. To the north-west and north the deserts of Ala-shan and Mongolia probably form its boundary, though in the St. Petersburg Museum there is a specimen of this Pheasant, labelled "Khara-Khere in Uliassutai, June, 1879" (received from the late Mr. Pewtzow, who, perhaps, had only purchased it near Uliassutai, N.W. Mongolia, a place situated on the caravan-road from Kuku-Khota to Kobdo). In the east the mountains of Shansi (inhabited by *Ph. reevesi*) probably form a boundary between *Ph. holdereri* and *Ph. kiangsuensis*, its eastern representative. West it extends through S. Kan-su, where, however, it must be very rare, as Mr. M. M. Berezowsky did not meet with it, and Mr. Holderer brought home only a single specimen of it from Min-tchow *. Here it is more or less replaced by the ringless *Ph. strauchi* and *Ph. berezowskyi*. To the south it extends to the banks of the Yang-tsi-kiang, but whether its range coalesces there with those of its southern ally *Ph. gmelini* and the ringless *Ph. decollatus* I cannot say.

The distinguishing characters of this Pheasant (see my synoptical table above, p. 381) were first pointed out by David and Oustalet. I have seen two specimens in the Academy's Museum, one already mentioned and the other labelled "Altan-Khorgoltai, S.W. from Kuku-Khota" (near the north-eastern bend of Hoang-ho). It is most probably only a subspecies of the narrow-collared East-Chinese Pheasants, lacking the superciliaries, and more nearly allied to the grey-winged *Ph. kiangsuensis* than to the somewhat pale-coloured *Ph. gmelini*. Dr. Schalow holds it specifically distinct from his *Ph. torquatus* (not mentioning the locality of this last); but his *Ph. torquatus* is probably a bird from the Amoor (*Ph. alpherakyi*), which is doubtless specifically distinct from *Ph. holdereri* as well as from *Ph. kiangsuensis* and *Ph. gmelini*.

24. PHASIANUS HOLDERERI KIANGSUENSIS, subsp. nov. (*East-Chinese Pheasant.*)

Ph. torquatus: 1861, Swinhoe, Ibis, p. 341 (pt., Pe-che-li);

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* One place of this name is situated on the borders of the Amdo Plateau and the Chinese lowland; and there are others in southern Kan-su.

1862, Lamprey, P. Z. S. p. 221 (Shanghai); 1877, David et Oustalet, Ois. Chin. p. 409 (pt.); 1893, Ogilvie-Grant, Cat. pt. 331 (pt.); 1903, Dresser, Man. p. 665 (pt.).

Phasiano holdereri similis, coloribus corporis intensis, torque angusta antice sæpe interrupta, macula alba postoculari nulla, uropygio olivascenti-cyaneo, sed pileo cerviceque obscurioribus, ex viridescenti-olivaceo magis fuliginosis, et colli colore metallice viridi diversus; superciliis angustissimis lutescentibus (non autem deficientibus) alarumque tectricibus cærulescenti-canis distinguendus.

Habitat in China orientali.

Ph. kiangsuensis inhabits Eastern China from the delta of the Yang-tsi-kiang to Kalgan, and extends west at least to the mountains of Shansi and to the Ichang gorges on the Yang-tsi-kiang, where its range overlaps that of *Ph. reevesi*. North it does not reach the Liau-khe valley, on the left side of which the much darker and completely ringed *Ph. karpowi* occurs. In the south its range coalesces with the much paler but most probably only subspecifically distinct *Ph. gmelini*. Several fine specimens of this Pheasant from Shanghai in the Tring Museum have been kindly compared with my specimens of *Ph. karpowi* and *Ph. alpherakyi* by Mr. Rothschild and Mr. Hartert, and in the Academy Museum I have examined a specimen purchased (frozen) by the late Dr. Radde in 1856 at Kiakhta, where it was evidently brought from Kalgan, as Mr. Lorenz (*in litt.*) has received similar specimens thence.

It is evidently only a subspecies of *Ph. holdereri*, as a specimen from Uliassutai (mentioned above) is somewhat intermediate, having much grey on the wing-coverts.

25. PHASIANUS HOLDERERI GMELINI, subsp. nov. (*Gmelin's Pheasant.*)

Ph. torquatus: 1861, Swinhoe, Ibis, p. 49 (pt., Hong-Kong); 1862, Swinhoe, Ibis, p. 259 (pt., Foo-chow); 1877, David et Oustalet, Ois. Chin. p. 409 (pt., var. "B," Fokien, Kiangsi); 1893, Ogilvie-Grant, Cat. p. 331 (pt.); 1903, Dresser, Man. p. 665 (pt.).

Phasiano holdereri similis, torque angusta antice saepe interrupta, macula alba postoculari nulla, uropygio olivascenti-griseo, pileo olivaceo-viridi rubiginoso minime imbuto; cervice collo fere concolori; alarum tectricibus olivascenti-luteo-griseis, sed superciliis angustissimis albicantibus coloribusque corporis valde pallidioribus (quam in *Ph. alpherakyi* paulo saturatioribus) distinguendus.

Habitat in China meridionali.

Ph. gmelini inhabits South-eastern China, south to Canton, north probably to Hangchow Bay and the middle Yang-tsi-kiang, where its range coalesces with that of *Ph. kiangsuensis*. Westward it extends through the province of Hoo-nan, but I cannot say whether it passes into the eastern parts of Quei-chow and there meets *Ph. decollatus*.

The distinguishing characters of this bird were pointed out so long ago as 1877 by David and Oustalet under the name "*Ph. torquatus*," but, as I have remarked when treating of *Ph. alpherakyi*, it is impossible to decide what sort of bird Gmelin's *Ph. torquatus* really was. The Museum of the St. Petersburg Academy possesses two specimens of this bird, obtained by the late I. Poliakow in Foo-chow (labelled "20/12 83 N. 71" and "21/12 83 N. 71"). As it is possible that Gmelin's name was partly intended for this bird, I propose to name it *Ph. gmelini*.

26. PHASIANUS DECOLLATUS Swinhoe. (*Swinhoe's Pheasant.*)

Ph. decollatus: 1870, Swinhoe, P. Z. S. p. 135 (Chung-king in Sze-chuan); 1877, David et Oustalet, Ois. Chin. p. 411 (pt., *cum Ph. berezowskyi*); 1893, Ogilvie-Grant, Cat. p. 331 (pt.); 1903, Dresser, Man. p. 663 (not shown to belong to the Palæarctic Region).

Ph. decollatus inhabits the eastern parts of the province of Yunnan, the western parts of Quei-chow, and perhaps the south-eastern parts of Sze-chuan, as the type specimen was purchased in the market of Chung-king, although Mr. Swinhoe tried in vain to get another example.

Mr. Ogilvie-Grant (Handb. G. B. 1897, ii. p. 28) mentions it as existing in "Western Yunnan," but perhaps only by a *lapsus calami*. He states (*l. c.*) also that this bird "extends from Yunnan" northwards to Southern Shensi, "eastwards to the Sin-ling Mountains, and southwards to Western Quei-chow." But, in fact, the Sin-ling Mountains are not situated east of Southern Shensi, but to the north and west of it, making a boundary between Southern and Northern Shensi and Kansu; while Quei-chow lies not to the south, but to north-east of Yunnan. The ringless Pheasants of Southern Shensi and the Sin-ling Mountains, mentioned by Mr. Ogilvie-Grant (on the authority of David) are not *Ph. decollatus*, as that species was not found by M. Berezowsky even in Northern Sze-chuan, but *Ph. berezowskyi*. The Pheasants of Eastern Koko-nor and Moupin were probably rightly considered by Seebohm to be *Ph. strauchi* (see P. Z. S. 1888, p. 267). The neighbours of *Ph. decollatus* are: *Ph. elegans* on the west, *Ph. gmelini* on the east, *Ph. berezowskyi* on the north, and perhaps *Ph. strauchi* on the north-west.

27. PHASIANUS STRAUCHI Przewalski. (*Strauch's Pheasant.*)

Ph. strauchi: 1876, Przewalski, Mongolia and the Country of Tanguts (Russ.), ii. p. 119 (Tatung, Buhuk-gol); 1891, Berezowski and Bianchi, Birds of the Kan-su Exped. Potanin (Russ.), p. 18 (pt., *cum Ph. berezowskyi*); 1893, Ogilvie-Grant, Cat. p. 329; 1903, Dresser, Man. p. 663.

Ph. decollatus: 1877, David et Oustalet, Ois. Chin. p. 411 (pt.: E. Koko-nor, ? Moupin).

Ph. strauchi is found in the mountains of the province of Kan-su up to 10,000 feet. It frequents the wooded parts of the Tatung and Buhuk-gol valleys, the Tatung Mts., and the mountains of the Amdos Plateau (near Si-ning), probably extending south to Moupin. In the north-eastern part of Kan-su. Mr. Berezowsky did not find this species; his specimens from South-western Kan-su (Ma-pua-san, some 50 miles south of Zan-chow) are most probably *Ph. strauchi*, but those from South-eastern Kan-su and Northern Sze-chuan are partly or even wholly *Ph. berezowskyi*. The specimens are in the Museum of Irkutsk, and I have not been able to examine them.

28. Phasianus berezowskyi Rothschild. (*Berezowsky's Pheasant.*)

Ph. decollatus: 1877, David et Oustalet, Ois. Chin. p. 411 (pt., S. Shensi); 1893, Ogilvie-Grant, Cat. p. 331 (pt., Sin-ling Mts.).

Ph. strauchi: 1891, Berezowski and Bianchi, Birds of the Kan-su Exp. Potanin (Russ.), p. 18 (pt., Hoi-sian).

Ph. berezowskyi: 1901, Rothschild, Bull. B. O. C. xii. p. 20 (Hui-Tsian); 1903, Dresser, Man. p. 663 (subsp. of *Ph. strauchi*).

Mr. Rothschild established this species on specimens from Hui-Tsian (or Hoi-Sian), the most easterly part of Southern Kan-su. Most probably the ringless Pheasants of Southern Shensi, including those of the Sin-ling Mountains, belong to it, and perhaps also those of North-eastern Sze-chuan.

Judging from descriptions (for I have seen no specimens) this Pheasant is somewhat intermediate in appearance between *Ph. strauchi* and *Ph. decollatus*, as it is intermediate in range.

29. Phasianus elegans Elliot. (*Stone's Pheasant.*)

Ph. elegans: 1870, Elliot, Ann. & Mag. N. H. vi. p. 312 (Yun-ling Mts.); 1893, Ogilvie-Grant, Cat. p. 329; 1898, Oates, Game B. Ind. i. p. 299.

Ph. sladeni: 1870, Elliot, P. Z. S. pp. 404, 408; 1871, Anderson, P. Z. S. p. 214 (W. Yunnan); 1877, David et Oustalet, Ois. Chin. p. 411.

Ph. elegans is restricted to the mountains of Western Sze-chuan and Western Yunnan in China, and to the Northern Shan States of Burmah, where it extends as far south as 23° 45′ N. lat.

Its eastern neighbour is *Ph. decollatus*, and its northern neighbour is *Ph. strauchi*. Messrs. Bianchi and Berezowsky state (*l. c.*) that some specimens of *Ph. strauchi* have so much green on the breast and chest (though not confluent with the green on the lower throat) that they seem in this respect to be intermediate between that species and *Ph. elegans*.

30. Phasianus vlangalii Przewalski. (*Tsaidam Pheasant.*)

Ph. vlangalii: 1876, Przewalski, Mong. and Tang. (Russ.), p. 116; 1893, Ogilvie-Grant, Cat. p. 330; 1899, Kozlow, Res. I. R. G. S. Exped. C. As. (Russ.), ii. pp. 198, 218, 286; 1903, Dresser, Man. p. 664.

The range of *Ph. vlangalii* is restricted to the eastern part of Tsaidam with the Valley of Bahin-hol (Tibetan, not that of Koko-nor) and Dsuhyn-hol.

The Southern Koko-nor Mts. and the Nan Shan form its northern boundary, on the other side of which one of the Ring-Pheasants (*Ph. satscheuensis*) occurs while on the east its close neighbour is *Ph. strauchi*. The green colour of the chest in one specimen of the latter from South-western Kansu (Ma-pua-san) mentioned by Messrs. Berezowsky and Bianchi may shew some affinity of *Ph. strauchi* to *Ph. vlangalii*, but not necessarily to *Ph. elegans*.

31. Phasianus versicolor Vieillot. (*Green Pheasant.*)

Ph. versicolor: 1825, Vieillot, Gal. Ois. ii. p. 23, pl. 205; 1890, Seebohm, Bird Jap. Emp. p. 370; 1893, Ogilvie-Grant, Cat. p. 334; 1903, Dresser, Man. p. 664.

Ph. diardi: 1830, Temminck, Pl. Col. v.

Ph. versicolor inhabits the Japanese Islands except Yezo. Those who consider it to be only a "climatic variety" of the strikingly different *Ph. colchicus* should be reminded that the climatic conditions of Japan and the lower Rion basin in Transcaucasia are somewhat alike, so that Japanese plants are easily acclimatised in the latter.

32. Phasianus soemmerringi Temminck. (*Copper Pheasant.*)

Ph. soemmerringi: 1830, Temminck, Pl. Col. v. nn. 487, 488; 1890, Seebohm, Birds Jap. Emp. p. 370; 1893, Ogilvie-Grant, Cat. p. 336 (pt.); 1903, Dresser, Man. p. 667.

Ph. soemmerringi inhabits the Kiu-Siu Isl. of Japan. It has been obtained also at Simoda on Hondo (Nippon), but Seebohm supposes that this was a tame bird.

33. Phasianus soemmerringi scintillans Gould. (*Gould's Pheasant.*)

Ph. (Graphophasianus) scintillans: 1866, Gould, Ann. &

Mag. N. H. xvii. p. 150 (Yokohama); 1890, Seebohm, Birds Jap. Emp. p. 370; 1903, Dresser, Man. p. 667 (subsp. of *Ph. soemmerringi*).

Ph. soemmerringi: 1893, Ogilvie-Grant, Cat. p. 336 (pt.).

Ph. scintillans mainly inhabits Hondo (Nippon) in Japan, but occurs also on Kiu-Siu.

I suppose this Pheasant to be a mere subspecies of the Copper Pheasant, as it is stated that every intermediate stage between the two forms occurs (Ogilvie-Grant, Handb. Game B. 1897, ii. p. 36). But such specimens as I have seen are strikingly different, and even the females quite recognisable, though Seebohm and Ogilvie-Grant treat them as indistinguishable. The female of *Ph. soemmerringi* has the tail narrowly but distinctly barred with white, blackish brown, and sandy rufous, but the female of *Ph. scintillans* has the central tail-feathers quite indistinctly barred, the other tail-feathers being bright rufous with a black subterminal and a broad white apical band.

34. PHASIANUS SOEMMERRINGI IJIMÆ Dresser. (*White-rumped Pheasant.*)

Ph. ijimæ: 1902, Dresser, Ibis, p. 656 (prov. Hiuga); 1903, Dresser, Man. p. 668 (subsp. of *Ph. soemmerringi*).

Ph. ijimæ occurs in the provinces of Kiuga and Osumi in the south-eastern part of Kiu-Siu Island in Japan.

I give it here only subspecific rank, as Mr. Dresser has himself done, though I am not aware that intermediate specimens have been found*.

35. PHASIANUS REEVESI Gray. (*Reeves's Pheasant.*)

Ph. reevesi: 1829, J. E. Gray in Griff. ed. Cuv. R. A. iii. p. 25; 1877, David et Oustalet, Ois. Chin. p. 413; 1893, Ogilvie-Grant, Cat. p. 337.

Ph. veneratus: 1830, Temminck, Pl. Col. v. n. 485.

Syrmaticus reevesi: 1832, Wagler, Isis, p. 1229.

This splendid Pheasant, not mentioned in Dresser's 'Manual,' inhabits the mountains of the central parts of Northern and Middle China. It is found in the western parts of the provinces of Pe-che-li (Chji-li), Shansi, the south-eastern part of Shensi, the western part of Honan, the northern part of Hoope, and the north-eastern part of Sze-chuan. It does not extend into Western Sze-chuan, but on the other side of the Yang-tsi-kiang it ranges to Kiu-kiang.

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* Mr. Dresser has lately informed me that Prof. Ijima has no intermediate specimens, and that the ranges on Kiu-Siu are quite different.

This short revision of the genus *Phasianus* is intended to prove that all the species have very limited ranges, as indeed is only natural in such variable and sedentary birds, and that they are more or less differentiated into true species or geographical subspecies, and are not merely climatic or local varieties that frequently merge into one another, as one would be apt to think on studying semi-domesticated mongrels. Furthermore it may shew that too often the areas of these species are not sufficiently known, and that this ignorance is only the natural consequence of a long-prevailing practice of lumping together closely allied, and sometimes even perfectly different, forms under one name, and of considering as "well known" and "not worth collecting" such forms of animals, though our knowledge of them is really very scanty.

I wish to express my warmest thanks to all who have helped me in preparing this article, namely, Mr. S. N. Alphéraky, of St. Petersburg, for the loan of specimens and printed works and for many friendly counsels; Dr. V. L. Bianchi, of the Museum of the Academy of St. Petersburg, for most kindly helping me and Mrs. Wera V. Buturlin in our studies of specimens and literature; Dr. Ernst Hartert, of Tring, for kindly comparing my specimens with typical specimens; Capt. A. W. Karpow, of Manchooria, for sending me specimens and interesting notes; Mr. Th. C. Lorenz, of Moscow, for some important notes; Baron H. v. Loudon for kindly bringing me for inspection numerous specimens from his Museum; the Hon. Walter Rothschild for kindly comparing my skins with types in the Tring Museum; and last, but not least, Prof. V. V. Zalensky, Director of the Museum of the Academy of St. Petersburg, for granting me access to the rich collections under his care.

Wesenberg, Esthonia, Russia,
April 17th, 1904.

XXX.—*On the Birds collected by Mr. Robert Hall, of Melbourne, on the Banks of the Lena River between Gigalowa and its Mouth.* By ERNST HARTERT, Ph.D., F.Z.S. *With an Introduction and Field-notes by* ROBERT HALL, C.M.Z.S.*

I. PREFACE (by E. HARTERT).

THE collection made by Mr. Hall on the Lena River is of great interest, as our knowledge of the details of distribution of birds in Siberia is very limited. It is interesting to note that the forms of the Upper Lena (Gigalowa) differ in some cases from those of the lower portion of the river. Near Gigalowa forms inhabiting the Baikal district were found breeding, while the specimens from further north are referable to the North-Siberian subspecies.

The journey having been rapidly made, and the collections having been entirely formed along the river, Mr. Hall can only have obtained specimens of a portion of the birds that inhabit that district of Eastern Siberia, and this is hardly sufficient to give us an idea of the avifauna, except so far as it is exhibited in summer on the river-bank. The skins are mostly much worn and badly prepared, so that some difficulty often presents itself in making out the subspecies in question. Nevertheless the collection increases our knowledge of Siberian ornithology considerably, and we are much indebted to Mr. Hall for his energetic enterprise in making it.

The skins are in the Hon. Walter Rothschild's Museum at Tring.

Mr. Hall's notes are enclosed in square brackets.

II. INTRODUCTION (by ROBERT HALL).

[This journey was practically commenced by me at Irkutsk on June 5th, 1903, with Mr. R. E. Trebilcock as a companion, and with a Russian interpreter†. To the ornithologist the Lena valley would, I thought, be a perfectly new field, so that I decided to explore it on my way from Australia to Europe. Before the journey to and from the navigable waters of this great river was completed it was necessary to hire some two hundred and ten horses. The mouth of the Lena was reached on July 12th. There we found the only piece of true tundra met with by us. The arrival at Irkutsk on our return took place on August 21st. The weather, according to report, was the finest that had been experienced for four years past, and certainly we had much sunshine during almost the whole of our tour. Twelve inches below the surface the ground was frozen in July. The total number of specimens collected was four hundred and one. Among them Fringillidæ were abundant. The birds, excepting at Yakutsk, were all collected upon the river-banks, and none were obtained higher up the river than Gigalowa. About that place the avifauna shewed a change, those species met with down the stream being markedly different from those found immediately up the stream. The distance between Gigalowa and the delta of the river is three thousand miles. At some sixty spots between these two extremes we were able to land while the small steamboat took in wood for fuel. Upon the banks, as far as Bulun, pines, firs, beeches, and willows grew densely, the beeches and pines to about Yakutsk and the firs for the most part to Bulun, where trees became stunted or absent.

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* The author of this paper wishes it to be understood that he is solely responsible for the nomenclature adopted.

† I take this opportunity of acknowledging the kindly services rendered at Vladivostock by Mr. Richard Hawker, of South Australia.

Between Gigalowa and Yakutsk there is a regular summer river-trade. From Yakutsk a small boat visits the fishing-stations lower down the river. We were given the opportunity* of proceeding from Yakutsk to the river-mouth in a small steamboat which was taking provisions to a Russian Geographical Expedition just outside in the Arctic Ocean. In Yakutsk during May birds are numerous, while in June they have proceeded further north, and in part have dispersed for breeding.

For much of the time we had the advantage of a midnight sun, but the serious disadvantage of vast myriads of mosquitoes which beset us during the whole twenty-four hours nearly every day. Ornithologists who would know more of these parts must of necessity be provided with some defence against the insects that try to impoverish the blood; many valuable sleeping-hours will thus be saved.]

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* By the kindness of Mons. Gandatti, the present Governor of Yakutsk, and Mons. Zooyef, the chief of the town of Olekminsk.

III. LIST OF THE SPECIES, WITH REMARKS, AND WITH THE COLLECTOR'S FIELD-NOTES.

1. STERNA LONGIPENNIS Nordm.

Sterna longipennis Nordmann in Erman's Verz. v. Th. u. Pfl. p. 17 (1835: Mouth of the Kuchtui, near Ochotsk).

♂ ad. 200 miles below Yakutsk. "Bill black, extreme tip whitish; eyes black; legs coral-red." (No. 165.)

Two young in down, 200 miles north of Yakutsk, I. vii. 1903. These two birds (Nos. 149, 150) are like the downy young of *Sterna fluviatilis*. They were erroneously marked as those of *Larus ridibundus* (!). "Legs flesh-coloured; nails blackish; bill deep flesh-coloured with black tip; nail of bill creamy white."

[Near Yakutsk also we observed what appeared to be this species. Our specimen was one of many that were nesting in a lagoon just off the river.]

2. LARUS ARGENTATUS VEGÆ Palmén.

Larus argentatus var. *vegæ* Palmén, Vega-Exped., Vetensk. v. p. 370 (1887: Behring Sea).

2 ♂, 1 ♀. Bulun, Lena River, 7. vii., 11. vii. 1903. (Nos. 222, 225, 229.)

1 ♀. Miankiaria River, one of the tributaries of the Lena, 22. vii. 1903. (No. 331.)

"Iris brown; orbital ring coral-red or deep red; legs and feet creamy white, with a delicate bluish tinge; claws deep brown or blackish; bill yellow, with a large patch of red near the tip of the lower mandible." Wings about 45 cm.

Larus argentatus vegæ is the eastern representative of *L. argentatus argentatus*. It differs in the colour of the orbital ring and the somewhat darker grey back, and from

L. argentatus cachinnans plainly enough by the colour of the feet. Mr. W. H. Kobbe's article in 'The Auk,' 1902, pp. 19–24, may be of some interest with regard to the Gulls visiting the Californian coast in winter (though I believe American ornithologists have long been aware of the facts mentioned by this author), but his attempt to unite the North-European *argentatus* and the East-Siberian *vegæ*, after the examination of a series of American non-breeding birds, had better have remained unprinted.

[These birds I secured at Bulun, where they were nesting. The young I saw at Vitim and further up the stream after 8. viii. 1903. This was the first date that I noticed the young flying. The Bulun birds were being terrorised by a Falcon, which would occasionally sally out from the cliffs and chase the timid Gulls away.]

3. Larus canus Brünn.

Larus canus Brünnich, Orn. Bor. p. 43 (1764: Iceland).

♀ ad. 10 miles west of Yakutsk, 22. vi. 1903. (No. 117.)

♀ ad. 200 miles below Yakutsk, 1. vii. 1903. (No. 151.)

"Iris yellow; orbital ring red; legs and feet yellowish (olive-yellow); bill deep olive-brown, tip yellow."

[An example of this species was shot on a lake some ten miles west of Yakutsk. Others I found nesting on the floating weeds of a lagoon adjacent to the river immediately below Yakutsk, 1. vii. 1903. This is some eighteen hundred miles up the river from the mouth. The nest was 17″ across, with a slight depression for the eggs.]

4. Larus ridibundus L.

Larus ridibundus Linnæus, Syst. Nat. ed. xii. p. 225 (1766: "Habitat in Mari Europæo").

5 ♂ ♀ ad. 200 miles below Yakutsk, 2, 3. vii. 1903. (Nos. 148, 160, 164.)

♂ juv. Lena just below Aldan, 29. vii. 1903. (No. 353.)

[On July 29, near Yakutsk, I shot a young bird flying which had just left its nest. It was the only bird of this species on the river-beach at the time.]

5. **Lagopus mutus** (subsp. ?).

♂ ad., ♀ ad. Bulun, 8. vii. 1903 (♀ no. 210, no. of ♂ lost); 4 pulli, belonging to ♀ no. 210. ♀ ad.: "Bill black, small red spot above eye, claws brownish." Nestlings: "Upper mandible deep brown, lower bluish. Claws and eyes brownish." The nestlings (of the size of Sparrows) are brownish or buffy yellow below. Middle of crown foxy rufous, surrounded by a blackish line. Blackish line from base of bill towards crown. Sides of head buffy yellow, with longitudinal black patches behind the eyes and ear-coverts. First little feathers on back black with rusty yellow marks and tipped with white. Wing-feathers blackish with buff markings and edges.

I am uncertain about the name of the Siberian Rock-Ptarmigan. Mr. Grant contends that it ought to be called "*Lagopus rupestris*," or as I should say *Lagopus mutus rupestris*, as even Mr. Grant pronounces it to be only a "northern" form of *L. mutus*. The name *rupestris*, however, is based on the Hudson Bay form. There are apparently several forms in Arctic America alone, so that it is not at all certain that the Siberian form is the same as that from Arctic America. If it differs, it has apparently no name, unless it is the same as the Commander Islands form, i. e. *ridgwayi* of Stejneger. I have no material to settle this question.

[This species we found among the fragmentary stones in very rough valley. My companion caught a nestling, and his action caused the captive to call so loudly as to bring its mother immediately. Then she flew away at once as if wounded. Five newly hatched young were caught. Being yellowish in colour they corresponded with the lichen and rock environment. One thought to hide itself by simply crouching and placing its head under a stone. As it remained thus for more than ten minutes we photographed it. The male kept quite out of sight. In winter large numbers of this bird are netted and sold for the equivalent of a penny farthing; in Yakutsk for a penny halfpenny.]

6. EUDROMIAS MORINELLUS (L.).

Charadrius morinellus Linnæus, Syst. Nat. ed. x. p. 150 (1758: "Habitat in Europa." Typical locality Sweden, from first quotation and diagnosis: "Fn. Suec. 158, 160").

♂ ad. Bulun, 8. vii. 1903. "Bill black. Legs deep brown. Iris dark." (No. 209.)

Pullus. Bulun, 8. vii. 1903. (Young of no. 209.) (No. 211.)

[This Plover was found upon a stony rise some 800 ft. approx. above sea-level. It was observed in one place only and but four birds in all. Two were mated. This pair had young in down, and when they were observed both parents tried to decoy us away, the male keeping at a distance and shewing great excitement. The female fluttered away in front, quite near her young, only one of which we could discover. This young bird agreed admirably in colour with the mosses, stones, and lichens with which it was surrounded. When found it had its chin close upon the ground, keeping so for at least ten minutes. Feeling that something was wrong it then rose and ran quickly away, the mother bird following it at about the same pace. While my companion was watching these actions I was one hundred yards away with the male flying past me and always in an opposite direction to that in which the young bird was. The position of the breeding-ground was away from water and upon the highest stony and treeless hills in the neighbourhood.]

7. ÆGIALITIS HIATICULA (L.).

Charadrius hiaticula Linnæus, Syst. Nat. ed. x. p. 150 (1758: "Habitat in Europa et America ad ripas." Typical locality Sweden, ex 'Fauna Suecica,' 159.)

1 ♂, 2 ♀. Mouth of the Lena, 12. vii. 1903. "Bill rich deep yellow with black tip. Legs yellow, claws blackish. Eye black." (Nos. 273, 274, 275.)

8. ÆGIALITIS DUBIUS (Scop.).

Charadrius dubius Scopoli, Del. Faun. et Flor. Insubr. ii. p. 93 (1786, ex Sonnerat; typical locality Luzon).

♀ ad. Ustkutsk, river Lena, 2. vi. 1903. "Legs brown, bill black, skin round eye yellow." (No. 55.)

This specimen, although a female, has the wing fully 118 mm. long, and the black band on the forehead rather narrow (about 6 to 6·5 mm.).

9. HETERACTITIS INCANUS BREVIPES (Vieill.).

Totanus brevipes Vieillot, Nouv. Dict. d'Hist. Nat. vi. p. 410 (1876: "Pays inconnu." Typical locality Timor! *Cf.* Pucheran, Rev. et Mag. de Zool. 1851, pp. 370, 570).

♂ ♀. Upper Lena River, 9. vi. 1903. "Legs yellow, bill and nails blackish." (Nos. 29, 37.)

10. TRINGOIDES HYPOLEUCOS (L.).

Tringa hypoleucos Linnæus, Syst. Nat. ed. x. p. 149 (1758: "Hab. in Europa." Typical locality Sweden; first quotation 'Fauna Suec.' 147).

Various places along the Lena River. (Nos. 1, 15, 152, 66.)

Nestlings were taken on July 3rd, 1903. (Nos. 167 to 170.)

[A bird was shot while perched upon a bush and shewing signs of strong emotion. In a few minutes peeping cries from a tangle of dog-roses, fallen limbs, and "horse-tails" indicated that young birds were near. By careful search four were found in couples. They had just been hatched, 3.7.03. The site was among the closely growing firs on a high mouldering bank of the river about four hundred miles below Yakutsk.

Another pair we found breeding upon the high banks of the river some two hundred miles below Yakutsk, on July 1st. One of the old birds was perched upon a tree.]

11. TOTANUS GLAREOLA (L.),

Tringa ocrophus β. glareola Linnæus, Syst. Nat. ed. xii. p. 250 (1766: Habitat in Europa. First quotation and diagnosis from 'Fauna Suecica,' 185; typical locality therefore Sweden).

Mouth of Lena River, 12. vii. 1903 (Nos. 277, 278) and at Gigalowa, 17. viii. 1903 (No. 393).

12. PAVONCELLA PUGNAX (L.).

Tringa pugnax Linnæus, Syst. Nat. ed. x. p. 148 (1758 "Habitat in Europa minus boreali." Typical loc. Sweden: ex 'Fauna Suecica,' 145).

3 ♀ ad. Mouth of Lena River, 12. vii. 1903. (Nos. 268, 269, 270.)

Besides some variation in the coloration of the upper surface (one specimen being less black than the other two), there is a remarkable difference in the colour of the legs and feet: one has them "a blend of blue and yellowish green" (slaty black in skin); one "delicate flesh" with black patches in front (whitish with black patches in skin); one entirely uniform "delicate flesh" (whitish in skin).

The occurrence of this Sandpiper so far north in Siberia is remarkable.

13. TRINGA TEMMINCKII Leisl.

Tringa temminckii Leisler, Nachtr. zu Bechstein's Naturg. Deutschl. i. pp. 63–73 (1812: on the Main in Germany)*.

♂ ♂ ♀ ad. Bulun and Miankiaria, 7, 8, 22. vii. 1903. Nestlings from the same places. Adults: "Legs pale horn-coloured, tending to nutty brown. Bill brownish black. Iris dark." Nestlings: "Bill brownish black, legs pale bluish, eyes dark." (Nos. 199 to 203, 231 to 235, 247, 323 to 327.)

[The first specimen seen was among the willows at Bulun on July 6th. It was alone and feeding among buttercups in the mud. There was not the slightest fear of me shown as I walked up to it in the broad light of a real and a mock sun at 9.30 P.M. On July 7th, with the thermometer at 3° R., I walked along a muddy beach and saw only two birds. In a few moments one, a male, gracefully nestled over two young Stints to soothe them. Almost at once he flapped a yard away to a second couple and warmed them in the same manner. Suddenly he appeared to go into convulsions, and tried to lure me away by his pretended struggles. Not succeeding, he returned again to the young, which were lying with chins closely placed upon the ground. His mate was not to be seen. In a second case observed on July 9th, the male was in charge of the young, and what I took to be the female was seen only twice far overhead, sending its penetrating note to the male beneath. By making a careful survey of the ground we found the four young lying perfectly still, and agreeing in colour with their environment. As the male passed over the young several times he varied his notes of counsel to them. Although but very recently hatched, they kept quite still for thirty-five minutes, during which time we successfully photographed them. This was at 1 o'clock A.M., with an F. 32 stop, an ordinary plate, 15 seconds' exposure, and the sun behind a hill. On July 26th I saw the first flock of eight to ten young abroad, 60 miles below Verlouis. Between Ustkutsk and Vitun, August 14, several little families of five or six were on the wing. We saw one bird cleverly evade two Falcons by a series of dives into the river, and another escape in the weeds of the river-bank.]

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* The quotation, as above given, is correct, while in the Cat. B. xxiv. p. 555, it is erroneous.

14. TRINGA ACUMINATA (Horsf.).

Tringa acuminatus Horsfield, Trans. Linn. Soc. xiii. p. 192 (1821 : Java).

♀ ad. Mouth of Lena River, 12. vii. 1903. (No. 271.) "Bill blackish blue, basal third dull deep yellow. Legs yellowish, eyes brown."

15. TRINGA ALPINA L.

Tringa alpina Linnæus, Syst. Nat. ed. x. p. 149 (1758: "Lapponia").

♂ ad. Mouth of Lena River, 12. vii. 1903. (No. 272.)

16. GALLINAGO GALLINAGO (L.).

Scolopax gallinago Linnæus, Syst. Nat. ed. x. p. 147 (1758 : "Habitat in Europa." Typical loc. Sweden, ex 'Fauna Suecica,' 143).

♂ ad. Near Yakutsk, on the Lena River, 22. vi. 1903.

The occurrence so far east is interesting. (No. 129.)

[In the swampy country some twenty miles west of Yakutsk, I secured on June 22nd a specimen that appeared to be nesting. It rose and dropped some ten yards away, and continued to do so when followed, trying to delude us by pretending to have a broken wing.]

17. Crymophilus fulicarius (L.).

Tringa fulicaria Linnæus, Syst. Nat. ed. x. p. 148 (1758: "Habitat in America." Ex Edwards, pl. 142).

♂ ad. Lena River mouth, 12. vii. 1903. "Bill rich deep yellow, blending into dark brown towards the tip. Legs pale bluish, lobes yellowish." (No. 276.) The crown is striped with buffy edges to the feathers. Why is the crown uniform slate-grey in some examples, more or less striped in others, apparently equally adult?

18. Anser serrirostris Swinh.

Anser segetum var. *serrirostris* Swinhoe, P. Z. S. 1871, p. 417 (winter visitor in China: Amoy, Shanghai, Wanchow —also Trans-Baikalia).

♂ ♀. Miankiaria River, Lena River, 22, 23. vii. 1903. "Bill black, with subterminal orange band; legs orange; iris brown; nails black."

I suppose that this form is an eastern subspecies of *Anser anser* Bodd.

[Only in one place did I learn of a nesting-ground, and then the season was concluding. It was just within the mouth of the River Miankiaria, a tributary of the Lena, near its mouth. We approached a dozen birds preening their feathers upon the near bank. Quickly entering the river they swam and dived away. The head and part of the neck alone were above the water when floating. The process of moult shewed a new series of wing-quills still very short. As soon as a second flock sighted our approaching steamer they commenced running rapidly along the bank upon which they had been resting. When close enough, a boat was lowered with a pursuing party, but the stern chase proved to be long. Eventually two individuals sought the bushes on the beach, while the main body escaped by means of the water. One of the hiding birds had its neck close to the ground and extended in a sinuous way, hoping thus to escape. Further along we observed a third flock with forty birds in it. They, too, started running away, and took to the water only when a rifle-ball was unwisely fired amongst them. They dived far and remained for a considerable time under water, the head and upper portion of the neck alone being visible. Although they were much frightened by the steamer passing through their midst, not a sound escaped them. These birds had their wing-quills about half-grown, while their bodies were very lean. In a fourth flock certain of the birds were floating on the water, others were semi-buoyant, but most of them had their necks in part below the water. It is said by sportsmen in Yakutsk that the Geese pass northwards at the end of April, and return by the Sea of Okhotsk on their southern migration. This, I think, would be about the middle of August of the present year.]

19. ANAS BOSCHAS L.

Anas boschas Linnæus, Syst. Nat. ed. x. p. 127 (1758: "Habitat in Europæ lacubus." Typ. loc. Sweden, ex 'Fauna Suecica,' 97).

♂ ad. 100 miles up the river from Yakutsk, 18. vi. 1903. (No. 95.)

20. ANAS CRECCA L.

Anas crecca Linnæus, Syst. Nat. ed. x. p. 126 (1758: "Habitat in Europæ aquis dulcibus." Typ. loc. Sweden, ex 'Fauna Suecica,' 109).

♂ ad. 100 miles up the river from Yakutsk, 19. vi. 1903. (No. 93.)

21. FULIGULA FULIGULA (L.).

Anas fuligula Linnæus, Syst. Nat. ed. x. p. 128 (1758: "Habitat in Europæ maritimis." Typ. loc. Sweden, ex 'Fauna Suecica,' 99).

♂ ad. Ustkutsk, 10. vi. 1903. "Iris yellow; bill and feet slate-black." (No. 48.)

22. CLANGULA HYEMALIS (L.)*.

Anas hyemalis Linnæus, Syst. Nat. ed. x. p. 126 (1758:

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* *Harelda glacialis* of authors who do not care for strict priority of

"Habitat in Europa et America arctica." Typ. loc. Sweden, from first quotation "Fn. Suec. 95").

2 ♀ ad. Mouth of Lena River, 12. vii. 1903. "Eye light hazel; legs and toes fleshy-slate-coloured, toes lighter fleshy, webs black; bill dull olive-green, top of culmen black." (Nos. 266, 267.)

23. GLAUCIONETTA CLANGULA (L.).

Anas clangula Linnæus, Syst. Nat. ed. x. p. 125 (1758: "Habitat in Europa." Typ. loc. Sweden, ex 'Fauna Suecica,' 100).

♀ ad. Miankiaria River, Lena River, 23. vii. 1903. "Bill black; legs orange, with blackish-brown webs and claws; iris ivory-white with a yellow tinge." (No. 350.)

24. ARCHIBUTEO LAGOPUS PALLIDUS Menzb.

Archibuteo pallidus Menzbier, Orn. du Turkestan, i. p. 163 (1888: Siberia, Karatau, Vernoy).

♂ ♀. Bulun, 17. vii. 1903. (A mated pair.) "Iris pale hazel; toes chrome-yellow, nails blackish; cere chrome-yellow; bill bluish horn-grey." (Nos. 293, 294.)

It seems that Siberian specimens of *Archibuteo* are, as a rule, paler, especially on the head, scapulars, wing-coverts, and tail, than Scandinavian and North-Russian examples. I have therefore provisionally adopted Menzbier's name for the Siberian form.

[This pair of Buzzards had a nest in a cliff on the river some 300–400 ft. above the water. Both birds flew savagely at the strangers.]

25. EUTOLMAËTUS PENNATUS (Gm.).

Falco pennatus Gmelin, Syst. Nat. i. p. 272 (1788).

♂ ad. Gigalowa, 17. viii. 1903. "Iris orange." (No. 398.)

[The call was made up of four varied creaky notes, with a normal note leading.]

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names. The genus *Clangula* Leach, in Ross's Voy. Discov., App. p. xlviii, was so obviously created for the Long-tailed Duck that discussion about it is, in my opinion, unnecessary.

26. MILVUS MELANOTIS Temm. & Schleg.

Milvus melanotis Temminck & Schlegel, Siebold's Fauna Japon., Aves, p. 14, pls. 5, 5 B (1844: Japan).

♂ ad. Lena River, 30. vi. 1903. "Iris dull yellow; bill blackish, cere bluish; legs bluish, nails black." (No. 155.)

I am not certain that *M. melanotis* is a representative of the *korschun*-group.

27. FALCO PEREGRINUS LEUCOGENYS Brehm.

Falco leuco-genys Brehm, Naumannia, 1854, p. 51 (first description, apparently from stray birds from Germany, but locality not mentioned) (*cf.* Menzbier, Ibis, 1884, p. 284).

♀ ad. Between Gigansk and Bulun, 21. vii. 1903. (No. 318.) "Iris brown."

Pullus (young of the above). (No. 319.) "Eye bluish, cere bluish creamy; bill, legs, and nails delicate bluish creamy, with a deeper tinge of blue on the nails."

[Three nests of this Hawk were observed in the cliffs between Yakutsk and Bulun. One found at Gigansk contained three young. They were simply lying upon the sand on a ledge of the river-cliff, which, in this case, was easily accessible. The accumulated débris of the sandstone was their only bed. Two of the young are to be reared by the captain of our steamboat for falconry purposes in Yakutsk. In the example secured I find that the middle toe of the left foot shews an old break and a setting of the bone at right angles.]

28. CERCHNEIS VESPERTINUS AMURENSIS (Radde).

Falco vespertinus var. *amurensis* Radde, Reisen in O.-Sibirien, ii. p. 102, pl. 1 (1863).

♀ ad. Zarkarminski, 8. vi. 1903. "Legs and feet orange; bill bluish, merging into yellowish at base; iris hazel."

29. ASIO OTUS (L.) (? subsp.).

Strix otus Linnæus, Syst. Nat. ed. x. p. 92 (1758: "Hab. in Europa." Typ. loc. Sweden).

Ad. (not sexed). Prokofskoa, Lena River, 4. viii. 1903. (No. 364.)

I believe that Siberian specimens are lighter than European; but more material would be necessary to decide this question.

30. Asio accipitrinus (Pall.).

Strix accipitrina Pallas, Reise Russ. Reichs, i. p. 455.

♀. Lena River, 14. vi. 1903. (No. 71.)

31. Apus pacificus (Lath.).

Hirundo pacifica Latham, Index Orn., Suppl. p. 58 (1801: "Habitat in Nova Hollandia").

♂ ♀ ad., 2 young (full-grown) from nest. Yakutsk, 25, 27. vi., 2. viii. 1903. "Bill black; iris blackish; foot reddish brown in the young, blackish in the old birds." (Nos. 134, 355, 356, 357.)

[In Yakutsk (27. vi. 1903) these Swifts were nesting upon beams under the market-place verandahs as well as amongst them. They congregate in large numbers, but do not breed in close company. They fly quickly, soar well, and have a single shrill note. The bird has a strong grasp (with its four toes in the same plane), which is enough to pierce the fingers and draw blood. The nest consists of a few straws and feathers cemented by saliva. The eggs were 2 or 3 to a clutch. There was much difficulty in securing specimens of Swifts and Swallows. The people have a superstitious fear about disturbing them. The Chief of Police in Yakutsk, to whom I am indebted, arranged for a youth to accompany me at dusk to the quietest part of the market-place to obtain specimens.

In the same place, on Aug. 1st, the young were just leaving the nest. One fully-fledged bird was miserably thin. There was scarcely any fatty tissue about its body and the sternum was but covered with dwarfed muscles. A second young bird was particularly fat. The parents occasionally worry the Feather-toed Swallows which associate with them in nesting.

This species was not met further down the river than Yakutsk.]

32. Cuculus canorus telephonus Heine.

Cuculus borealis Pallas, Zoogr. Rosso-Asiat. i. p. 443 (1831 : partim! "Per universam Rossiam et Sibiriam." Pallas's name *borealis* cannot be accepted for the Siberian Cuckoo. Though it is by no means a "nomen nudum," as supposed by Tschusi, it is only given as a new name to Linnæus's *Cuculus canorus*).

Cuculus telephonus Heine, Journ. f. Orn. 1863, p. 352 (Japan).

Cuculus canorus johanseni Tschusi, Orn. Jahrb. 1903, p. 165 (Tomsk in Siberia).

Two Cuckoos were obtained. They differ from European examples by the very narrow bars on the under side, the scanty spotting on the under tail-coverts, and the rather long wings (230 and 233 mm.). It seems to me that Siberian, Kamtschatkan, and Japanese Cuckoos are similar, and in that case their name would be *Cuculus canorus telephonus*. If the Japanese form were distinguishable, the Siberian form would be called *C. c. johanseni*.

♂ ad. Ustkutsk, 12. vi. 1903. "Bill blackish, base of lower mandible yellowish; feet yellow; iris blackish." (No. 38.)

Yakutsk, 22. vi. 1903. (No. 159.)

33. Cuculus saturatus Blyth.

Cuculus saturatus Blyth, Journ. As. Soc. Beng. xii. p. 942 (1843 : ex Hodgson, MS. : India).

♀ ♀. Lena River, 20 miles north and a few miles south of the Arctic Circle. "Legs orange; bill slate-coloured, utmost base of mandible orange; iris yellow." The colour of the iris is different in *C. canorus* and *C. saturatus*.

34. Dendrocopus major (L.).

Picus major Linnæus, Syst. Nat. ed. x. p. 114 (1758: "Habitat in Europa." Typ. loc. Sweden).

♂ ad. Zarkarminski, 8. vi. 1903. (No. 21.)

2 ♂ ad. Ustkutsk, 12. vi. 1903. (Nos. 40, 72.)

1 ♂, 2 ♀ ad. Yakutsk, June 1903. (Nos. 122, 143, 158.)

2 pulli. Yakutsk, 23. vi. 1903. (Nos. 123, 124.)

It seems to me now that the Siberian Great Spotted Woodpeckers (except those from the furthest east) are indistinguishable from the typical *D. major* of Sweden and North Russia. Hargitt (Cat. B. xviii.) mixed the Kamtschatkan form with the Siberian. In no case, however, can Pallas's name *cissa* be used for the Siberian form, because Pallas did not give the name *cissa* to the Siberian form as distinguished from the true *major*; but his name was to be merely a more suitable name for Linnæus's *Picus major*, as was the case with many other Pallasian names. The diagnosis does not refer to the Siberian form in particular, and the distribution is: "Per omnem Rossiam et Sibiriam."

[Five nestlings were found placed in the hollow of a fir-tree about twenty feet from the ground, the locality being some twenty miles west of Yakutsk. They were seven days old, approx. This species was observed to be well distributed between Yakutsk and Gigalowa.]

35. Picus canus perpallidus Stejn.

Picus canus perpallidus Stejneger, Proc. U.S. Nat. Mus. 1886, p. 107 (Ussuri).

♂ ad. Upper Lena River, 7. vi. 1903. (No. 25.)

The Siberian Woodpeckers belonging to this species are so obviously paler and greyer above, greyish and not greenish below, that Hargitt's remarks in 'Ibis,' 1888, pp. 19–21, are incomprehensible. Whether it will be possible to separate *P. c. yessoënsis* and *P. c. perpallidus* is another question, which I cannot answer at present. If they are not separable, the name *yessoënsis* would have to embrace them both.

36. Dryocopus martius (L.).

Picus martius Linnæus, Syst. Nat. ed. x. p. 112 (1758: "Habitat in Europa." Typ. loc. Sweden).

♂ ad. Upper Lena River, 8. vi. 1903. (No. 28.)

[This specimen was shot while feeding upon the ground. It has a weird and highly pitched note in addition to sharp brief notes. The species was met between Gigalowa and Verkolensk.]

37. PICOIDES TRIDACTYLUS, subsp.?

♀ ad. Yakutsk, 23. vi. 1903. (No. 131.)

The one female is in too bad condition to decide to which subspecies it belongs.

38. IYNX TORQUILLA L.

Iynx torquilla Linnæus, Syst. Nat. ed. x. p. 112 (1758: "Habitat in Europa." Typ. loc. Sweden).

♀ ad. Olekminsk on the Lena River, 6. viii. 1903. (No. 379.)

39. MUSCICAPA GRISEISTICTA (Swinh.).

Hemichelidon griseisticta Swinhoe, Ibis, 1861, p. 330 (Amoy).

♂ ad. Upper Lena River, 8. vi. 1903. "Legs and bill black." (No. 44.)

40. MUSCICAPA PARVA ALBICILLA Pall.

Muscicapa albicilla Pallas, Zoogr. Rosso-Asiat. i. p. 462 (1831: Dauria).

♀. Gigalowa, 17. viii. 1903. "Bill, eye, and legs black." (No. 394.)

41. PRATINCOLA RUBICOLA MAURA (Pallas).

Motacilla maura Pallas, Reise, ii. Anhang, p. 708.

♀ ad. (erroneously sexed "♂"). Bulun, 6. vii. 1903. (No. 187.)

4 ♂ ♀ juv. Olekminsk, 6. viii. 1903. (Nos. 374, 375, 376, 378.)

42. TURDUS MUSICUS L.

Turdus musicus Linnæus, Syst. Nat. ed. x. p. 169 (1758: "Habitat in Europæ sylvis." Typical locality Sweden, as the diagnosis and first quotation are from 'Fauna Suecica,' 189).

Turdus iliacus auctorum, nec Linnæus, 1758!

There can be no doubt whatever that Linnæus in 1758 described the Redwing as *Turdus musicus*. His diagnosis is: "*Turdus* alis subtus ferrugineis, linea superciliorum albicante." Of *Turdus iliacus* (= *Turdus musicus* auctorum, Song-Thrush), he says: "alis subtus flavescentibus" and "linea nulla superciliorum alba." Unfortunately the two names have since been reversed, and it is time that this old error should be rectified and the names used in their original sense. *Turdus iliacus* sings in our English parks and gardens, while *Turdus musicus* is a winter migrant to this country.

♀ ad. et pull., Bulun, 6. vii. 1903. (Nos. 195, 196, 198.)

♂ ad. 100 miles up the river from Bulun, 5. vii. 1903. The nestlings have the red on the sides of the breast and under the wings paler and yellower, almost as in the Song-Thrush.

[These birds had a nest on July 7th in the jagged part of a broken fir-tree near the ground. The male (the female being shot) saw to the removal of the young to a more secure hiding-place. We found these birds rather shy.]

43. Turdus naumanni Temm.

Turdus naumanni Temminck, Man. d'Orn. ed. 2, ii. p. 170 (1820).

3 ad., 6 pulli, and young from Yakutsk and Olekminsk on the Lena River. Young from 6. vii. to 4. viii. 1903.

Ad.: "Iris brownish; bill deep brownish, with base of lower mandible and cutting edge yellow. Legs yellowish brown." Pullus: "Bill nut-brown, yellowish at base. Eye brown. Legs very pale brown." (Nos. 84, 125, 126, 146, 144, 363, 359, 385.)

The young bird in first plumage is very different from the adult. The fore-neck and chest are heavily spotted with brownish black, the upper surface is spotted with pale buff and blackish-brown spots.

[Evidently I was standing near the nest of this bird when my attention was first attracted to it, for it flew restlessly from tree-top to tree-top after approaching me quickly from a distance.]

44. Turdus dubius Bechst.

There are also three other young Thrushes from Bulun (Nos. 185, 193, and 230), which are much like the young of *T. naumanni*, but much blacker above, and have the tails blackish brown without rufous. They can only be the young of *Turdus dubius*, but no parent birds were obtained.

45. TURDUS PILARIS L.

Turdus pilaris Linnæus, Syst. Nat. ed. x. p. 168 (1758: "Habitat in Europa." Typ. loc. Sweden).

Common at Yakutsk and Prokofskoa. Young ready to leave the nest 20. vi. 1903. (Nos. 90, 91, 111, 118, 121, 128, 137, 142, 154, 360, 361.)

46. CYANECULA SUECICA SUECICA (L.).

Motacilla suecica Linnæus, Syst. Nat. ed. x. p. 187 (1758: "Habitat in Europæ alpinis").

2 ♂ ad., 5 ♀, 2 juv. From Bulun to the mouth of the Lena. (Nos. 182, 189, 236, 237, 240, 250, 251, 297, 313.)

These are typical *suecica*, not the paler "*discessus*" of Madarász.

[Between the ball of the eye and the skin there was living a long yellow worm quite ¾″ in length; other examples of this species had a similar worm in the same region. Adult males I found to be very shy.]

47. SYLVIA CURRUCA (L.).

Motacilla curruca Linnæus, Syst. Nat. ed. x. p. 184 (1758: "Habitat in Europa." Typ. loc. Sweden).

3 ♂, 1 ♀ ad. Ustkutsk, Olekminsk, and other places. "Bill brown. Legs bluish-slate-coloured. Iris dark brown." (Nos. 34, 60, 74, 373.)

It seems to me that Siberian Lesser Whitethroats are indistinguishable from European *S. curruca*. According to the books they should be *S. affinis* Blyth, but I do not think that this is correct.

48. PHYLLOSCOPUS FUSCATUS (Blyth).

Phillopneuste fuscata Blyth, Journ. As. Soc. Bengal, xi. p. 113 (1842: Calcutta).

3 ♂ ad. Olekminsk, 18. vi., 6. viii. 1903, and 100 miles above Yakutsk. "Legs pale brown; upper mandible

blackish, lower yellowish with blackish tip. Iris dark brown." (Nos. 83, 109, 365.)

I have called this species *Phylloscopus fuscatus*, as it can hardly be placed in the same genus with *Lusciniola melanopogon*. The latter is a close ally of the Reed-Warblers, and not very different essentially from them, while *fuscatus* seems to be a *Phylloscopus* with a somewhat different wing-formula. It requires a close study of these birds to decide upon their genera; all that I can say at present is that *fuscatus* is either a *Phylloscopus* or, if generically separable, might be called *Herbivocula*, but not *Lusciniola*.

[This bird sings upon shrub-tops in the scrub. It utters its notes rapidly, strongly, and sweetly, the song being akin to that of *Acrocephalus* in Australia, but not so powerful.]

49. Phylloscopus trochilus (L.) (? subsp.).

Motacilla trochilus Linnæus, Syst. Nat. ed. x. p. 188 (1758: "Habitat in Europa." Typ. loc. Sweden).

♂ ♀ ad. Bulun, 16, 17. vii. 1903. (Nos. 287, 288, 289, 296, 295.)

These examples are very pale and might form another subspecies.

50. Phylloscopus borealis (Blas.).

Phyllopneuste borealis Blasius, Naumannia, 1858, p. 313 ("Mer d'Ochotsk").

♂ ad. 20 miles north of the Arctic Circle, 4. vi. 1903. (No. 176.)

3 ♂ ad. Olekminsk, 100 miles above Yakutsk, 18. vi. 1903. (Nos. 87, 103, 107.)

♂ ad. 100 miles north of Yakutsk, 29. vi. 1903. (No. 162.)

♀ ad. Between Bulun and Gigansk, 20. vii. 1903. (No. 320.)

♂ ad. Upper Lena River, 9. vi. 1903. (No. 43.)

[This species fills the woods with song almost to the exclusion of other birds, which certainly are not plentiful here at this time of the year. When flying it has a chattering note.]

51. Phylloscopus superciliosus (Gm.).

Motacilla superciliosa Gmelin, Syst. Nat. i. p. 975 (1788).

6 ♂ ♀. Olekminsk, Vitim, Bulun. (Nos. 77, 286, 366,

367, 368, 369.) "Bill deep yellowish brown above, chrome-yellow on lower mandible; legs slaty brown; iris dark brown."

52. Accentor montanellus (Pall.).

Motacilla montanella Pallas, Reise d. versch. Prov. d Russ. Reichs, iii. p. 695 (1773: Dauria).

♀ ad. Just below Bulun, 14. vii. 1903. (No. 305.) "Bill blackish; legs pale brownish; eye dark."

53. Saxicola œnanthe (L.).

Motacilla œnanthe Linnæus, Syst. Nat. ed. x. p. 186 (1758: Europa. Typ. loc. Sweden).

2 ♂, 2 ♀. Bulun and mouth of river. (Nos. 208, 223, 301, 302.)

Nestling just out of nest. Mouth of river, 13. vii. 1903. (No. 303.)

54. Lanius cristatus L.

Lanius cristatus Linnæus, Syst. Nat. ed. x. p. 93 (1758: Bengal. Ex Edwards, 54).

3 ♂ ad. Upper Lena River, 8, 9. vi. 1903, Olekminsk, 6. viii. 1903. (Nos. 24, 30, 381.) "Legs black. Bill bluish black. Iris hazel."

3 pulli. Prokofskoa, 4. viii. 1903; Olekminsk, 6. viii. 1903. "Bill dark brown above, light creamy below. Legs bluish slate-coloured. Iris dark." (Nos. 362, 382, 383.)

[This bird has a series of low grinding notes as if a scissors-grinder were at work. Suddenly it repeats a highly pitched and sharp "caw, caw, caw."]

55. Parus montanus baicalensis Swinh.

Parus baicalensis Swinhoe, Ann. & Mag. Nat. Hist. ser. 4, vol. vii. p. 257 (1871: Baikal).

1 ♀, 1 ♂? Upper Lena River, 9, 10. vi. 1903. (Nos. 42, 45.)

1 ♀? Olekminsk, 6. viii. 1903. (No. 380.)

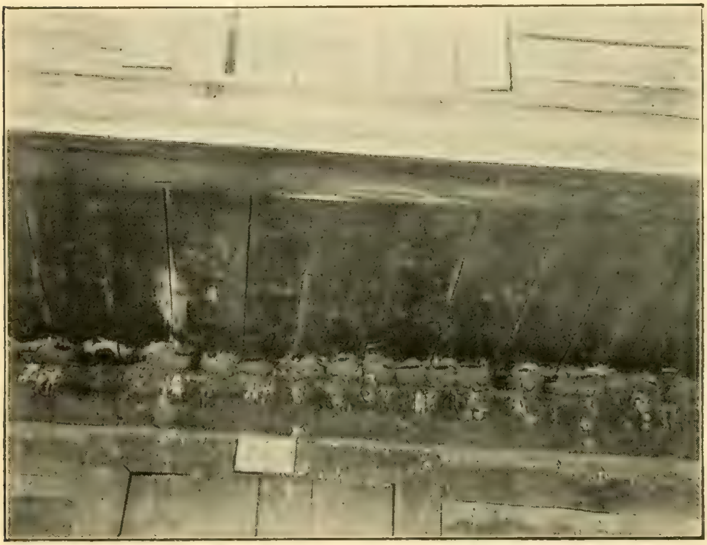
These birds are undoubtedly a form of the *montanus* (or *borealis*) group. They agree fairly well with *P. baicalensis*, though they are rather more grey on the back, but the skins are so bad that slight differences cannot well be seen.

56. Delichon urbica whiteleyi (Swinh.).

Chelidon whiteleyi Swinhoe, P. Z. S. 1862, p. 320 (Pekin).

The generic name *Chelidon* being preoccupied (by Forster), the name *Delichon* Moore must, of course, be used for the genus. Pallas's name "*Hirundo lagopoda*" cannot be used for the Siberian form of the House-Martin. Pallas made the name, not for the Siberian form in particular, but for Linnæus's *Hirundo urbica*. As the habitat, he gives "in omni Rossia et Siberia." The fact that he adds a detailed description of a Daurian example does not alter this.

Text-fig. 2.



Nests of *Delichon urbica whiteleyi*.

Yakutsh, Bulun, Gigansk. Nearly full-grown nestlings in nests on 24. vii. 1903, and 2. viii. 1903. (Nos. 97, 98, 99, 332 to 338, 102, 292, 354, 358.)

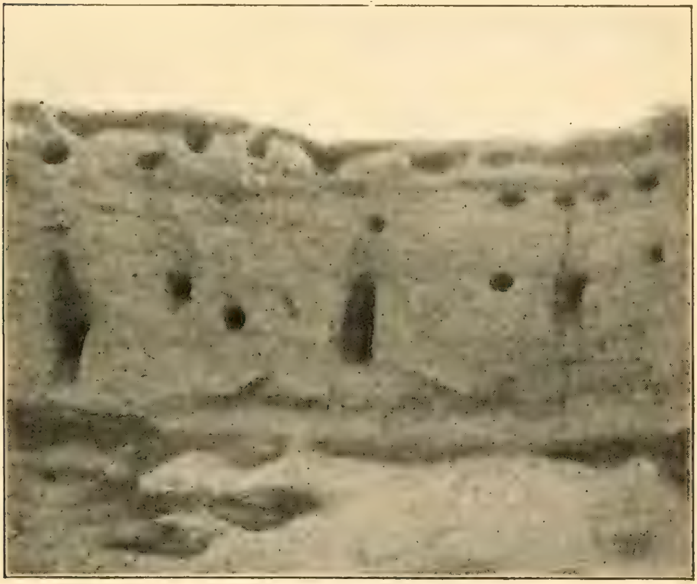
[In Yakutsk on June 19th I counted forty-two nests of this species in a space of seven yards under a verandah. During the day, in various spots, I counted fourteen dead birds suspended from or cemented to their own nests. They appear to get their feet entangled in the hair and mud and cannot get free. Their mates go on building, and finally the dead birds get from one- to three-fourths of their bodies quite covered by the mud wall of the nest. The posterior half is the hidden part. Eggs were hard-set on June the 19th here. Ninety versts below Verlouis, on July 27th, young were still in the nests.]

57. CLIVICOLA RIPARIA DILUTA (Sharpe).

Cotile diluta Sharpe, Monogr. Hirund. i. p. 63 (1894: near Tashkend).

4 ♂ ♀. Zarkarminski, 8. vi. 1903. (Nos. 12, 13, 14, 18.) "Bill and feet black."

Text-fig. 3.



Nests of *Clivicola riparia diluta.*

These examples appear to be quite adult and in good plumage, not worn, as might be expected. They differ conspicuously from the European *Clivicola riparia riparia* in being paler above, and having the præpectoral band paler and less conspicuous. Their wings measure 100 to 105 mm.

[The present species was found along the course of the river as far down as Bulun. At Gigalowa, on July 7, the birds were preparing to nest in their old homes, and in a few cases had already laid their eggs, while in others the grasses had been placed on a flooring 18 inches within the tunnel-mouth. The cavities at the ends of the tunnels are broad and flat; not rounded, and 4 or 5 inches across on average. One nest contained a dead adult bird, another an egg of last season. The egg is white, ovate, 0·7 in. long, 0·5 in. broad. This nesting-site ranged between five and ten feet above the water's edge. A second bank was riddled with holes for a distance of two hundred yards, two to three feet from the top. A third and very high cliff shewed in its centre the nesting-site of a large colony.

Immediately below Ustkutsk, in the course of a few days' boating, miles of actual nest-line were passed (12. vi. 1903). On calm days the twitterings of the birds during their rather heavy-looking flight almost filled the air. Young just hatched were found in Yakutsk on July 31st.]

58. Motacilla alba ocularis Swinh.

Motacilla ocularis Swinhoe, Ibis, 1860, p. 55 (Amoy).

2 ♂ ad. Vitim, 16. vi. 1903. (Nos. 73, 83.)

♂ ad. Olekminsk, 16. vi. 1903. (No. 100.)

♀ ad. Yakutsk, 25. vi. 1903. (No. 140.)

♂ ad. 100 miles up the river from Bulun, 4. vii. 1903. (No. 184.)

♂ ad. A few miles south of the Arctic Circle, 3. vii. 1903. (No. 188.)

Young birds just out of nests from most of these places and from the mouth of the river. (Nos. 101, 127, 139, 141, 252.)

[This species was found to be common along the river. In Yakutsk (20. vi. 1903) I obtained a young bird essaying an early flight. Twenty miles west of Yakutsk I found a nest upon the ground, hidden under a log, and containing six eggs.]

59. MOTACILLA ALBA BAICALENSIS Swinh.

Motacilla baicalensis Swinhoe, P. Z. S. 1871, p. 363 (Baical).

1 ♂ ad. Gigalowa, 7. vi. 1903. (No. 8.)

It is very interesting that at Gigalowa, where, according to Mr. Hall, the fauna changes, the more southern form (*M. a. baicalensis*) is found, while at all the more northern places it is replaced by *M. a. ocularis*.

60. MOTACILLA FLAVA TAIVANA (Swinh.).

Budytes taivanus Swinhoe, P. Z. S. 1863, p. 334 (Formosa).

♀ ad. 100 miles up river from Yakutsk, 19. vi. 1903. (No. 96.)

♂ ad. Yakutsk, 28. vi. 1903. (No. 147.)

"Bill, legs, and feet black."

Motacilla flava taivana breeds in parts of Siberia and winters in Formosa, South China, Malacca, &c. Probably it represents *M. flava borealis* in the more southern parts of Siberia, and might be regarded as a subspecies of the *flava*-group.

61. MOTACILLA FLAVA BOREALIS Sundev.

Motacilla flava borealis Sundevall, Œfv. K. Vet.-Akad. Förh. Stockh. 1840, p. 53 (Scandinavia).

Common on the Lower Lena from Gigansk to Bulun and at the mouth of the river. Young almost ready to leave the nest were found in the first week of July. (Nos. 191, 194, 197, 207, 239, 243, 246, 248, 253, 255, 321, 322, 343, 344, 345.)

62. MOTACILLA BOARULA MELANOPE Pall.

Motacilla melanope Pallas, Reise, iii. p. 696 (Dauria).

2 ♂ ad. Gigalowa, Upper Lena River, 7, 8. vi. 1903. (Nos. 23, 26.)

63. ANTHUS SPINOLETTA BLAKISTONI Swinh.

Anthus blakistoni Swinhoe, P. Z. S. 1863, p. 90 (Yangtsze River).

♂ ad. Bulun, 8. vii. 1903. "Bill black; legs brown; eyes dark."

64. Anthus cervinus (Pall.).

Motacilla cervina Pallas, Zoogr. Rosso-Asiat. i. p. 511 (1831: E. Siberia).

Bulun, mouth of the river; common. (Nos. 190, 206, 242, 245, 249, 254, 256, 257, 258, 262, 263, 279, 280, 281, 282, 283, 316, 317.)

"Bill brown, with base of the lower mandible yellowish; legs pale; iris dark brown."

I suppose this to be only a subspecies of our Meadow-Pipit.

[These Pipits have a rather melancholy note.]

65. Anthus trivialis trivialis (L.).

Alauda trivialis Linnæus, Syst. Nat. ed. x. p. 166 (1758: Sweden).

Common at Gigalowa, Ustkutsk, and Vitim. (Nos. 5, 9, 49, 51, 59, 75, 79.)

It is interesting to find here, still in the Baikal district, the European form, while further north it is represented by *A. trivialis maculatus*.

66. Anthus trivialis maculatus (Oates).

Pipastes maculatus Oates, B. Brit. Burmah, i. p. 171 (1883: ex Hodgs. MS., Burma).

It seems that Mr. Oates was the first to describe properly the Pipit now known under the name of *maculatus*. Hodgson never diagnosed it.

Gigansk, Nahtynskaja, and 200 miles north of Yakutsk. (Nos. 153, 339, 341, 342, 391.]

"Upper mandible dark brown; legs and lower mandible pale brown."

67. Anthus richardi Vieill.

Anthus richardi Vieillot, Nouv. Dict. d'Hist. Nat. xxvi p. 491 (1818: France).

Found commonly on the Upper Lena at Ustkutsk, Yakutsk, and Gigalowa. (Nos. 27, 36, 52, 54, 58, 138, 161, 392.)

"Legs pale brown; upper mandible dark brown, lower pale brown; iris dark brown."

Though these specimens can apparently be only *Anthus richardi*, none of them have the prodigiously long hind claw found in so many examples of Richard's Pipit.

68. Alauda arvensis (subsp.).

Three Skylarks were obtained at Yakutsk in June 1903. They are very different from the European *A. arvensis arvensis* and too brown for *A. arvensis cantarella*. I cannot, from three rather worn summer birds, come to a final conclusion about them, but I believe them to belong to *Alauda arvensis intermedia* Swinhoe, described (P. Z. S. 1863, p. 89) from Shanghai, where, however, I should think it would be a winter visitor. (Nos. 114, 115, 136.)

69. Calcarius lapponicus (L.).

Fringilla lapponica Linnæus, Syst. Nat. ed. x. p. 180 (1758: Lappland).

♂ ♂ ♀ ad. et pull. Just out of nest at the mouth of the river, 12. vii. 1903. (Nos. 259 to 265.)

"Eyes and legs deep brown; bill yellow, with extreme tip black."

70. Emberiza chrysophrys Pall.

Emberiza chrysophrys Pallas, Reise d. versch. Prov. d. Russ. Reichs, iii. p. 698 (1776: Daurian Alps).

One male adult of this rare Bunting was obtained at Gigalowa on June 7th, 1903. (No. 6.)

"Iris hazel; bill blackish brown, base of lower mandible pale brown; legs pale brownish cream-coloured."

71. Emberiza pusilla Pall.

Emberiza pusilla Pallas, Reise d. versch. Prov. d. Russ. Reichs, iii. p. 697 (1776: Daurian Alps).

This species was frequently met with twenty miles north of the Arctic Circle, at the Miaukiaria River, at Gigansk and Bulun. (Nos. 173, 174, 175, 181, 204, 205, 220, 221, 291, 298, 299, 307, 308, 309, 310, 328, 329, 346, 347.)

Half-feathered young were taken from nests on 4. vi.

and 5. vii. 1903; young birds in first plumage were shot on 14, 22. vii. 1903.

72. Emberiza rutila Pall.

Emberiza rutila Pallas, Reise d. versch. Prov. d. Russ. Reichs, iii. p. 698 (1776: "In salicetis ad Ononem, versusque Mongoliæ fines").

♂ ad. Zarkarminski, 8. vi. 1903. (No. 16.)

"Legs light brown; base of lower mandible light brown, upper mandible and tip of lower dark brown."

73. Emberiza leucocephala S. G. Gm.

Emberiza leucocephalos S. G. Gmelin, Nov. Comm. Acad. Sci. Imp. Petrop. xv. p. 480, pl. 23. fig. 3 (1771; Astrachan).

From Gigalowa, Ustkutsk, Yakutsk, Olekminsk; full-fledged young, Yakutsk, Olekminsk, 21. vi. 1903. (Nos. 3, 4, 17, 53, 61, 62, 86, 112, 113.)

The young bird in first plumage is rufous-brown above with black-brown centres to the feathers; throat, chest, and sides striped with brown; abdomen white; under tail-coverts dull cinnamon with whitish edges; legs yellowish, nails black; bill dark brown, corners of mouth yellow.

74. Emberiza aureola Pall.

Emberiza aureola Pallas, Reise d. versch. Prov. d. Russ. Reichs, ii. p. 711 (1773: "Hab. in Populetis, insulisque salice luxuriantibus ad Irtin aliosque Sibiriæ fluvios").

Found commonly at Gigalowa and other places on the Upper Lena, Ustkutsk, Vitim, Olekminsk, Yakutsk, twenty miles north of the Arctic Circle, Verchoyansk, and Nahtyuskaja. (Nos. 7, 10, 19, 22, 31, 32, 33, 35, 41, 46, 47, 50, 56, 57, 63, 69, 70, 76, 80, 81, 85, 89, 104, 105, 106, 108, 120, 133, 174, 340, 352, 387.)

[Male and female take part in incubation. The male flew off one nest, fluttered about, and trailed his breast upon the ground within three or four yards of us, as if he had a broken wing. The nests are placed in heads of stumps as well as in low thick bushes very near to or upon the ground. The female is exceedingly shy and will stop in an isolated bush almost until she is driven out. Eggs were fresh on June 18th.

A nest on the ground in the grass at Yakutsk on June 20th was photographed at 3.30 A.M. (text-fig. 4); we got a third set of eggs on June 25th. A further nest containing five hard-set eggs was found 28. vi. 1903 near Yakutsk.]

Text-fig. 4.

Nest of *Emberiza aureola.*

75. Passer montanus saturatus Stejn.

Passer saturatus Stejneger, Proc. U.S. Nat. Mus. viii. p. 19 (1885: described from one (!) specimen from the Liu-Kiu Islands).

1 ♂ ad. Ustkutsk. (No. 64.)

3 juv. Gigalowa, 17. viii. 1903. (Nos. 395, 396, 397.)

East-Siberian birds, like those from the Japanese islands, have generally larger bills than European examples, but the form can hardly be distinguished.

According to Mr. Hall, these birds were very numerous between Vercolensk and Irkutsk.

Mr. Hall says that *Passer domesticus* was nesting in Ustkutsk, 12. vi. 1903, but he omitted to collect specimens.

76. CARPODACUS ERYTHRINUS ERYTHRINUS (Pall.).

Loxia erythrina Pallas, Nov. Comm. Acad. Sci. St. Petersb. xiv. p. 587, pl. 23. fig. 1 (1770: S. Russia and Sibiria).

The "typical" form of the Scarlet Grosbeak was found at Vitim, Olekminsk, Yakutsk, and Verchoyansk. (Nos. 67, 88, 156, 351.)

77. FRINGILLA MONTIFRINGILLA L.

Fringilla montifringilla Linnæus, Syst. Nat. ed. x. p. 179 (1758: "Habitat in Europa." Typ. loc. Sweden, as the diagnosis and first quotation are taken from the 'Fauna Suecica').

1 ♂ ad. Vitim, 16. vi. 1903. (No. 78.)

1 ♂ ad., 1 ♀ ad., 2 juv. Olekminsk, 18. vi., 16. viii. 1903. (Nos. 92, 370, 371, 372.)

1 ♀ ad. Yakutsk, 21. vi. 1903. (No. 110.)

78. ACANTHIS FLAMMEA FLAMMEA (L.).

Fringilla flammea Linnæus, Syst. Nat. ed. x. p. 182 (1758: "Habitat in Europa." Typ. loc. Norrland in Sweden; ex 'Fauna Suecica,' no. 201).

1 ♂. Yakutsk, 24. vi. 1903. (No. 135.)

5 ad., 3 juv. Bulun, 7, 8. vii. 1903. (Nos. 217, 218, 219, 224, 227, 228, 238, 241.)

1 ♂ ad., 2 ♀ ad., 1 juv. Just below Bulun, 14. vii. 1903. (Nos. 284, 285, 306, 311.)

79. ACANTHIS HOLBOELLII (Brehm).

Linaria holboellii Brehm, Handb. Naturg. Vög. Deutschl. p. 280 (1831: described from winter visitors to Germany).

Found in numbers 20 miles north of the Arctic Circle,

4. vi. 1903 (Nos. 178, 180), at Bulun, 5, 8, 10, 17. vii. 1903 (Nos. 183, 216, 244, 290), and Olekminsk, 6. viii. 1903 (No. 377).

If this form actually occurs during the breeding-season, together with *Acanthis flammea flammea*, we shall have, though reluctantly, to recognise it as a species (*cf.* Vögel d. pal. Fauna, i. pp. 77–80). It is, however, significant that Mr. Hall saw flocks of Redpolls on migration as early as July 20th. Apparently he did not distinguish between the two forms of Redpolls, so that the following notes may refer to either of them.

[A nest containing unfledged young was found placed in a fir tree on July 17th, at Bulun. One bird had two large larvæ, one dipterous fly, and three mosquitoes in its bill. At Gigansk, on July 20th, we saw a stream of Finches travelling southwards. That they were on migration there was no doubt. The little flocks numbered from twelve to twenty birds, with stragglers or newcomers coming in between each flock. They appeared to be mostly of this species as far as I could discover. On August 6th, at Olekminsk, I found it in flocks of fifty birds.]

80. PERISOREUS INFAUSTUS SIBERICUS (Bodd.).

Corvus sibericus Boddaert, Tabl. Pl. Enl. p. 37 (1783: ex Daubenton & Buffon).

♂ ♀. Yakutsk, 23. vi. 1903. (Nos. 130, 132.) "Bill and feet black."

81. NUCIFRAGA CARYOCATACTES MACRORHYNCHA Brehm.

Nucifraga macrorhynchos Brehm, Lehrb. Naturg. europ. Vög. i. p. 103 (1823: "Gebirgswälder des mittl. nördl. Europa und Asien." Type a Siberian migrant).

Ad. & juv. Ustkutsk, 12. vi. 1903. (Nos. 39, 65, 66, 68.)

2 ♂ ad. Nahtyuskaja, 7. viii. 1903. (Nos. 384, 386.)

One of the last two males shews distinct white edges to the inner primaries and secondaries, thus approaching *N. c. kamtschatkensis* of Barrett-Hamilton. I find that the white triangular spots on the wing-coverts are also seen in some

Siberian examples. Though I have recognised *N. c. kamtschatkensis* as a subspecies in my book on Palæarctic birds, it is by no means sufficiently established, and a larger series should be compared.

[Two small flocks of half a dozen individuals each were met with, one at Gigalowa and the second a little further down the river. The birds utter a strong squeaking note and appear to prefer the thickets of pines. Those obtained in June were from one flock.]

82. Corvus corone orientalis Eversm.

Corvus orientalis Eversmann, Add. Pall. Zoogr. fasc. ii. p. 7 (1841 : Narym River).

♀ ad. Gigalowa, 7. vi. 1903. (No. 11.)
♂ ad. Yakutsk, 22. vi. 1903. (No. 119.)
♂ ad. 200 miles below Yakutsk, 1. vii. 1903. (No. 157.)

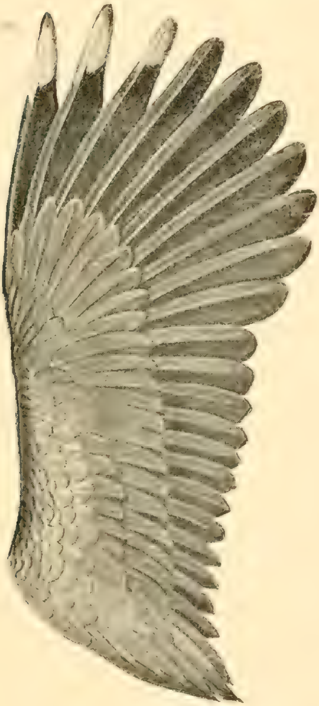
XXXI.—*On Sexual Variation in the Wing of the Lapwing* (Vanellus vulgaris). By F. W. Frohawk, M.B.O.U., F.E.S.

Although the Lapwing is one of the birds most easily obtained in the flesh for six months of the year, yet ornithologists have apparently overlooked a very striking sexual character in the formation of the wing, as there is no reference whatever to it in any of the principal works on British birds. The following remarks may therefore be of sufficient interest to call attention to what I consider to be a good sexual character of this species, and a point probably worthy of consideration in other species possessing a general similarity in pattern and coloration of plumage.

Seebohm in his 'British Birds' says :—"The female Lapwing has less metallic gloss on the feathers, but otherwise scarcely differs from the male, except in having a shorter crest and in having the chin and throat marked with white, the white on the throat of the young females being very conspicuous in breeding-plumage, whilst it almost disappears at that season in very old birds."

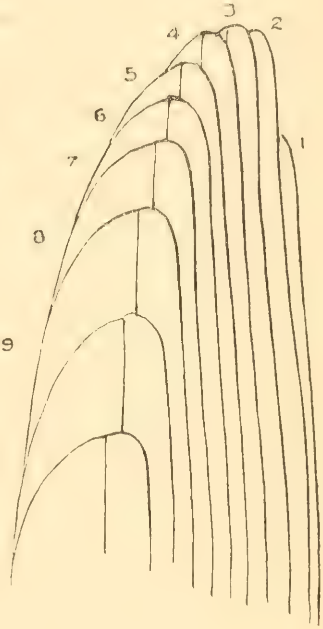
Mr. Howard Saunders states in his 'Manual':—"The mature female does not differ in plumage, but younger hens shew some white on the chin; in winter that part as well as the throat are white in both sexes. The young bird has a shorter crest and the dorsal feathers are edged with greyish buff."

Text-fig. 5



Wing of Lapwing, ♂.

Text-fig. 6.



Primaries of Lapwing, ♂.

The fact that the great difference in the wings of the sexes has escaped observation might at first appear due to descriptions having been taken from skins only, but in the closed wings of a skin the relative length of the primaries is so marked that it appears strange that the difference should have hitherto remained unnoticed.

I have recently had ample opportunities of observing these birds, and have shot several for the purpose of study.

When sketching a fine male with the wings expanded, I was so much struck with the remarkable roundness and breadth of the primaries that I was led to dissect other specimens, with the result that I found those with the rounded wings to be males and those with comparatively narrow wings females. I only noticed this marked variation at the end of February, so had but little time to shoot examples for further study. I mentioned the peculiarity, however, to Mr. Castang, and with his kind assistance was enabled to look over many specimens in Leadenhall Market, the result being that the sexes were easily determined by the form of the wing.

The shapes of the expanded wings are very dissimilar, as will be seen from the drawings (text-figs. 5, 7), both of which are taken from adult birds shewing no light buff edges to the feathers, shot in February 1904. In the male, the primaries are long and broad, giving a decidedly curved outline, while the secondaries, being considerably shorter, add greatly to the rounded appearance of the wing.

The margin of the expanded wing of the female forms a continuous line, the primaries being much shorter and giving the wing a comparatively narrow appearance.

The following is the sexual wing-formula:—

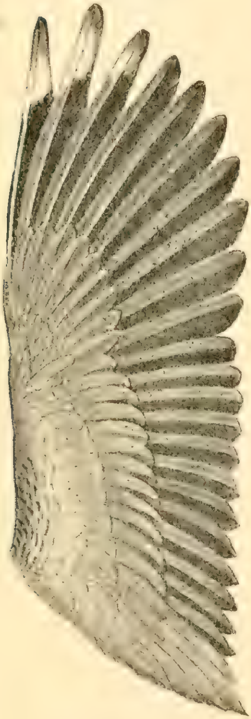
Text-fig. 6.—♂. 3rd primary longest.
2nd and 4th primaries equal.
1st primary = 7th.
7th, 8th, and 9th primaries 1¼ in. longer than in ♀.
7th primary 1¼ in. wide—this being the average width of the inner primaries.
10th primary ¾ in. longer than the 1st secondary.

The secondaries gradually diminish in length on nearing the base, giving a somewhat concave outline.

Text-fig. 8.— ♀. 2nd and 3rd primaries equal and longest.
1st and 4th primaries equal.
7th primary 1 in. shorter than 1st.
7th primary 1 in. wide.
10th primary only $\frac{1}{5}$ in. longer than the secondaries, excepting the 1st secondary, which is rather shorter than the rest.

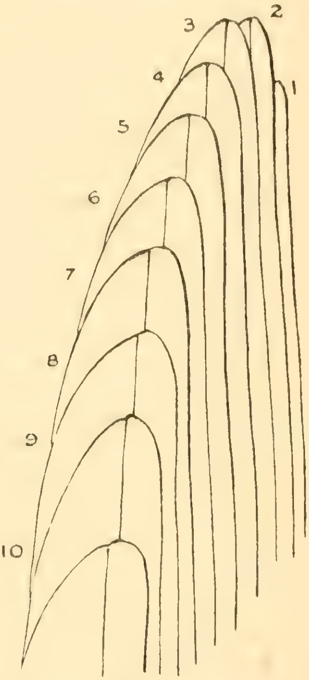
As a rule, the white basal portion of the secondaries in the female extends further down the feathers, so that the shorter black apical parts form a narrower marginal band on the under side of the expanded wing.

Text-fig. 7.



Wing of Lapwing, ♀.

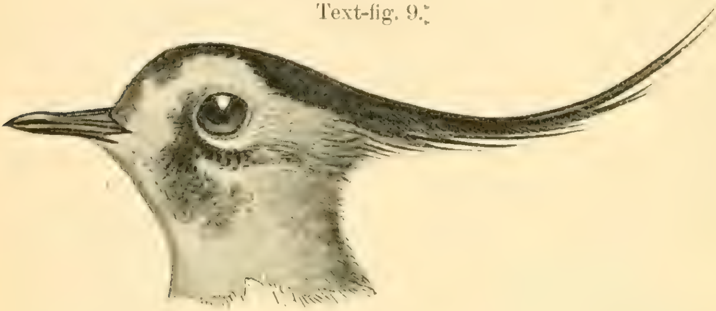
Text-fig. 8.



Primaries of Lapwing, ♀.

During flight the sexes may easily be distinguished by the great difference of wing-formation. When a flock passes overhead, the males may readily be picked out, and it is just as easy when the birds are nesting to distinguish the males from the females as they fly over their breeding-ground, even at a considerable distance.

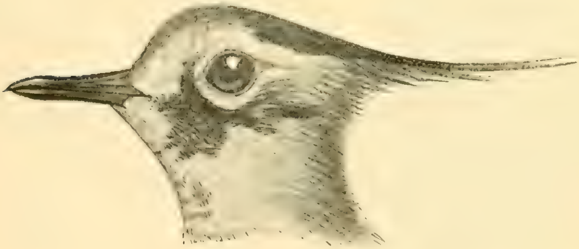
Text-fig. 9.



Lapwing, ♂.

There can be but little doubt that the remarkable roundness and great breadth of the primaries enable the males to throw themselves about in the air in the extraordinary manner they do during the breeding-season, while, so far as I can ascertain, it is only the male bird which indulges in these ridiculous aerial performances.

Text-fig. 10.



Lapwing, ♀.

The other chief sexual differences noticeable in the Lapwing are:—

Text-figs. 9, 10.—1st. The relative size of the bill, a character hitherto overlooked.

2nd. The length of the crest.

3rd. The general coloration of the plumage of the ♀, which is a good deal paler than that of the ♂.

4th. The size, the ♀ being usually smaller than the ♂.

The bill of the ♀ is considerably longer than that of the ♂, while the crest of the ♂ is generally twice the length of that of the ♀.

The following are measurements of four specimens, which are about average examples :—

♂. 8th Feb., 1904.—Culmen $\frac{7}{8}$ in., crest $3\frac{1}{2}$ in., expanse of wings 29 in.; total length $12\frac{3}{4}$ in., wing $9\frac{1}{4}$ in. Weight $10\frac{3}{4}$ ozs.

♂. 13th Feb., 1904.—Culmen $\frac{7}{8}$ in., crest $4\frac{1}{4}$ in., expanse of wings $28\frac{1}{2}$ in.; total length 13 in., wing $9\frac{1}{4}$ in. Weight $8\frac{2}{3}$ ozs.

♀. 9th June, 1903.—Culmen 1 in., crest 2 in., expanse of wings $26\frac{3}{4}$ in.; total length 12 in., wing $8\frac{3}{4}$ in. Weight $6\frac{1}{2}$ ozs.

♀. 15th Feb., 1904.—Culmen 1 in., crest 2 in., expanse of wings 27 in.; total length $12\frac{1}{8}$ in., wing $8\frac{3}{4}$ in. Weight $6\frac{3}{4}$ ozs.

The colour of the legs and feet varies from light lilac-red to dull brown-pink. Iris very dark hazel; bill black. [*Cf.* Bull. Brit. Orn. Club, 1904, vol. xiv. p. 62.]

The flock of Lapwings which I kept under observation during the past winter consisted at the beginning of November of about forty birds; it gradually increased until the middle of January, when the numbers approached a thousand. These were accompanied by a flock of about a hundred Golden Plovers. When the Lapwings took to flight they were always closely followed by the Golden Plovers, which kept just in the rear, with their steady gliding flight in great contrast to that of the Lapwings.

XXXII.—*Field-notes on Birds from the Western Pyrenees.*

By A. H. Evans, M.A., F.Z.S.

During the month of April last, I was able to spend a fortnight at Argelès-Gazost, in the lower portion of the Department of the "Hautes Pyrénées," and to devote nearly my whole time to the observation of the birds of the district, in furtherance of the researches of Mr. Howard Saunders in the years 1882, 1883, and 1896. His papers (Ibis, 1884, pp. 365–392; 1897, pp. 61–89), supplemented by that of Mr. H. M. Wallis (Ibis, 1895, pp. 64–85), give so good an account of the avifauna of the western section of the chain, with full lists of the species, that some apology is due for traversing once more such well-trodden ground; but Mr. Saunders made his headquarters at St. Jean de Luz, and from that centre worked up both the French and Spanish side of the mountains, while I devoted myself to the country above Lourdes, and especially to the valleys extending to the Spanish frontier beyond Cauterets and Gavarnie. Mr. Wallis visited the locality in May and June, and his paper gives no information concerning the earlier part of the season; it may therefore be of interest to the readers of our Journal to learn what species of birds were present and what absent in the foothills at the time of the spring migration, in a year when the snow had covered the ground for more than four consecutive months and was particularly late in melting.

A visitor to the districts above Pau in April is at once agreeably struck by the abundance of bird-life compared with its deplorable scarcity in many parts of France; not only are the numbers of individuals considerable, but little fear is shown of man, from which the inference may be naturally drawn that persecution is less felt there than elsewhere. As regards species, more might doubtless have been recorded a month later, as not a few of the birds' customary breeding-quarters were inaccessible at the time of my visit, a circumstance which I regret the more as it precluded the observation of many of their most interesting habits.

Comparatively few members of the Turdidæ were to be met with near Argelès-Gazost in April, but a most noticeable feature was the great abundance of the Ring-Ousel (*Turdus torquatus*), which was passing on migration during nearly the whole of the month. It breeds in the vicinity, as Mr. Wallis saw young on the wing above Gavarnie by June 16th. Large numbers are shot for the table while on passage, and appear in the ménu under the name of "Pie de Mars," the chief hunting-ground at Argelès being the hill directly opposite the town. The Blackbird (*T. merula*) was not uncommon in gardens and shrubberies, but the Song-Thrush (*T. musicus*) was only once observed, and the Mistletoe-Thrush (*T. viscivorus*) was conspicuous by its absence. Two birds, which I took to be Fieldfares (*T. pilaris*) were observed flitting along a fir-wood near the top of a snow-capped hill, but the Rock-Thrush (*Monticola saxatilis*) was never seen, though a careful look-out was kept. Probably it had not reached the hill-sides as early as usual. Redstarts (*Ruticilla phœnicurus*) were passing through Argelès from April 7th to April 10th, after which date none were observed, though individuals nest in the neighbourhood; while the Black Redstart (*R. titys*), which Mr. Saunders reports as leaving St. Jean de Luz by April, had not yet arrived at its upland haunts. Nor were Chats of any species to be seen either in the valleys or on the hill-sides above them. The Redbreast (*Erithacus rubecula*) was resident, yet rather scarce; the Nightingale (*Daulias luscinia*) was never heard, though it is found at an altitude of 5000 feet on the Spanish side of the range; but the Blackcap (*Sylvia atricapilla*) and the Sardinian Warbler (*S. melanocephala*) were extremely abundant and were evidently preparing to breed, the cocks, when not already paired, keeping up continual contests for the hens. *Reguli* were fairly common, but it was very difficult to be certain of the species without the aid of a gun; I succeeded, however, in finding a nest of the Fire-crest (*Regulus ignicapillus*), which contained four eggs at the end of the month. It was rather smaller and more compact than that of the Gold-crest, and was placed under the end of a small spruce-fir branch. The Willow-Wren (*Phylloscopus trochilus*) and the Chiffchaff (*P. rufus*), which were heard on several occasions, seemed to have taken up their abode in the lower valleys for the summer.

I was much disappointed not to meet with the Alpine Accentor (*Accentor collaris*), which undoubtedly is not uncommon near the loftier peaks, as, for instance, at the Port of Gavarnie; it is true that deep snow blocked all paths to the heights, but this should naturally have driven the birds to somewhat lower levels. The Dipper of the Pyrenees frequented nearly every stream and was abundant in suitable localities, being found up to the highest points accessible in the month of April; but either it had not begun to breed or the nests were unusually difficult to find. The Long-tailed Tit of the district (*Acredula irbii*) was sufficiently common in small flocks, which were to be seen feeding among the branches of the spruce-firs, but were not breeding; *Parus major*, *P. ater*, and *P. cæruleus* were observed in a few places, but no other species of the genus was met with. *Ægithalus pendulinus* was only identified at Argelès-Gazost, where it was not uncommon in the Park. The Nuthatch (*Sitta cæsia*) was by no means rare where park-like conditions prevailed, while the Wren (*Troglodytes parvulus*) and the Creeper (*Certhia familiaris*), though less plentiful than in Britain, occurred in various situations. Two species of Wagtails were breeding in the valleys, *Motacilla melanope* being particularly abundant up to the very foot of the higher mountains and *M. alba* somewhat less so at the lower levels. The former in several cases had hard-set eggs. The Meadow-Pipit (*Anthus pratensis*) was occasionally seen, but no Shrikes or Flycatchers had arrived. On the other hand, Swallows (*Hirundo rustica*) were in evidence by April 7th, and Martins (*Chelidon urbica*) by April 17th; *Cotile rupestris*, moreover, was even thus early occupying its breeding-haunts in the gorges of the Cauterets Valley, though it did not appear to be nesting. The Greenfinch (*Ligurinus chloris*) was more common than the Goldfinch (*Carduelis elegans*), but both species were far outnumbered by the Serin (*Serinus hortulanus*), which was one of the most abundant birds at Argelès, where it was always to be seen flitting about the gardens from tree to tree, or flying high in the air for short distances, while uttering sharp notes upon the wing, not unlike those of the Siskin under similar conditions. These little birds seemed to be much attracted by the rough-cast walls of the houses facing the gardens, to which they used to cling for several minutes, apparently with the object of securing some kind of food. The only Sparrow identified in Argelès was our common species (*Passer domesticus*), which was plentiful; but by far the most abundant bird in the whole district was the Chaffinch (*Fringilla cœlebs*), the only Finch which appeared to be breeding at this early date. Linnets (*Linota cannabina*) were still flocking in the fields in large numbers, in company with Yellowhammers (*Emberiza citrinella*) and Sparrows. A pair of Crossbills (*Loxia curvirostra*) was noticed in a large spruce-fir wood on the top of the hill opposite Argelès, and the Meadow-Bunting (*Emberiza cia*) was seen singly or in pairs, especially in the valley on the way to Cauterets. I was somewhat surprised to find no Starlings (*Sturnus vulgaris*) in the district, but still more to note at so late a period of the month the entire absence of Choughs (*Pyrrhocorax graculus* and *P. alpinus*). No doubt snow was still lying in the gorges which they frequent, but it must be quite an exceptional experience to fail to meet with them in April. On the other hand, a flock of some eight Jackdaws was seen circling around near the Cirque of Gavarnie, and I should certainly have taken them for Choughs had they not been so near that their appearance and cry were unmistakable. Only one Jay (*Garrulus glandarius*) was noticed, though it is a common enough bird as a rule; but Magpies (*Pica rustica*) were extremely abundant and ranged almost up to the April snow-line. They evidently had eggs towards the end of the month. The Raven (*Corvus corax*) seems to be rare, but the Carrion-Crow (*Corvus corone*) was seen, in pairs or singly, on several occasions, both in the higher and the lower valleys. All enquiries respecting the Nutcracker (*Nucifraga caryocatactes*) were fruitless.

One of the most abundant species was the Green Woodpecker (*Gecinus viridis*), the laugh of which was heard in all directions in the lower valleys, though breeding had not yet begun; the birds were very tame and easy of observation, and the colour of the back seemed rather more grey than in British specimens. The Wryneck (*Iynx torquilla*), recorded from Argelès-Gazost by Mr. Saunders as early as March 26th, had possibly passed on to more congenial haunts, as its cry was never heard. The Cuckoo (*Cuculus canorus*), on the other hand, was constantly heard after the middle of April. Not a single Owl was to be seen or heard either by day or by night, but the peasants asserted that the "Grand Duc" (*Bubo ignavus*) haunted a large fir-wood on the hill opposite Argelès. Griffon Vultures (*Gyps fulvus*) were seldom visible, though at times they appeared even over the town; they are said to breed near Arrens on the French side of the mountains, but the natives cannot, of course, be relied upon, and the snow prevented any attempt at reaching the locality. Kestrels (*Falco tinnunculus*) were pretty common, especially on the cliffs towards Lourdes; but Buzzards and Kites were conspicuous by their absence, though they occur in the main valley as high as Argelès. No other members of the Falconidæ were seen.

Wood-Pigeons (*Columba palumbus*) were somewhat uncommon, but both this species and the Stock-Dove (*C. œnas*) must be extremely abundant in autumn, to judge from the numbers which are said to be taken about September at St. Pé and other places between that town and St. Jean de Luz, noted for their "palombières." Boys are sent up the trees, and throw sticks when the flocks appear. The birds are said to follow the sticks, but it seems more likely that they swoop down to avoid them. As a result they are caught in nets stretched along or near the ground. M. Peyrafitte, the well-known hotel-keeper and sportsman of Argelès, was particularly anxious to impress upon me the fact that the flocks at St. Pé arrived from the south, and that the smaller Doves were much less numerous than the larger. About April 12th the whole district swarmed with Turtle-Doves (*Turtur communis*), apparently on migration. The Capercaillie (*Tetrao urogallus*) is still shot in the highest woods from time to time, but appears to be decidedly rare. The Water-Hen (*Gallinula chloropus*) was observed on the Gave de Pau at Argelès-Gazost.

XXXIII.—*Proceedings at the Annual General Meeting of the British Ornithologists' Union*, 1904.

The Annual General Meeting of the British Ornithologists' Union was held in the meeting-room of the Zoological Society of London, 3 Hanover Square (by permission of the Council of that Society), on Wednesday, the 11th of May, at 6 P.M., when Dr. F. DuCane Godman, F.R.S., the President, took the Chair.

The Minutes of the last Annual Meeting having been read and confirmed, the following report of the Committee was read:—"The Committee have to report the continued prosperity of the Union during the past year, both as regards Membership and as regards its finances.

"The annual volume of 'The Ibis' for 1903, published in due course, is the third of the eighth series, which is under the joint Editorship of Dr. P. L. Sclater, F.R.S., and Mr. A. H. Evans. It contains 659 pages, and is illustrated by 12 plates, only two of which are uncoloured.

"On reference to the financial statement for the past year, it will be observed that for the first time since 1898 there have been no outstanding accounts at the end of the year, and that the balance to the credit of the Union on the 31st of December last amounted to £36 14*s*. 5*d*.

"With much regret the Committee have to report the deaths of two Ordinary Members since the last Anniversary, viz., Dr. Edward Hamilton and Mr. W. F. Urwick. Two Members have resigned (Mr. T. L. M. Cartwright and Mr. Eugene W. Oates) and two have been removed under Rule VI., viz., Commander A. F. Gurney, R.N., and Mr. F. E. Mugford.

"The Union now consists of 377 Ordinary Members, 2 Extra-Ordinary Members, 10 Honorary Members, 3 Colonial Members, and 19 Foreign Members.

"There are 32 Candidates for Ordinary Membership at the present Meeting. Mr. A. J. Campbell is recommended for election as a Colonial Member, and Prof. Dr. Wilhelm Blasius to fill the vacancy in the list of Foreign Members."

The Meeting then proceeded to elect officers for the ensuing year, and it was announced that Dr. F. DuCane Godman, F.R.S., had been re-elected President, and Mr. Howard Saunders, Secretary; also that Mr. E. G. B. Meade-Waldo had been elected a member of the Committee in place of Dr. F. D. Drewitt, who had retired by rotation, and that the election into the Committee of Mr. J. L. Bonhote in place of Mr. E. W. Oates, resigned, had been confirmed.

The following thirty-one gentlemen were then ballotted for and elected Ordinary Members:—Philip H. Bahr, B.A., Oakfield, Cromptons Lane, Wavertree, Liverpool; Harry B. Booth, 40 Spring Road, Shipley, Yorks; A. D. Mitchell-Carruthers, Holbrook Rectory, Ipswich; Goland Van Holt Clarke, D.S.O. (18th Hussars), Brooke House, Hayward's Heath, Sussex; Lieut. Henry L. Cochrane, R.N., H.M.S. 'Hermione,' Mediterranean; Charles Collier, F.Z.S., Clieveden House, 21 Eaton Terrace, S.W.; T. A. Dorrien-Smith, J.P., D.L., Tresco Abbey, Scilly Isles; Dr. Ralph E. Drake-Brockman, Cheriton, Wellington Road, Bournemouth; George H. Duckworth, 22 Hyde Park Gate, S.W.; Henry B. Elton, Holsworthy, N. Devon, and Caius College, Cambridge; Arthur S. Gaye, Trinity College, Cambridge; Norman Gilroy, 71 Claremont Road, Forest Gate, Essex; Capt. Herbert H. Harington, 92 Punjabis, Bhamo, Upper Burma; Francis Head, Buckingham, Shoreham, Sussex; Capt. Boyd R. Horsbrugh, A.S.C., Seabrooke Vale, Shorncliffe Camp; John E. H. Kelso, 12 Festing Road, Southsea, Hants; Dr. Percy R. Lowe, *care of* Sir Frederic Johnstone, Bart., The Hatch, Windsor; Lieut. Hubert Lynes, R.N., 23 Onslow Gardens, S.W.; Kenneth C. Macdonald, Burma Police, Rangoon, Burma; Harvey W. Mapleton, Hartley Wintney, Hants; Thomas H. Newman, F.Z.S., 20 Montpelier Square, S.W.; Wickham Noakes, Selsdon Park, Croydon; Theed Pearse, Mentmore, Ampthill Road, Bedford; James Sargent, 76 Jermyn Street, S.W.; L. M. Seth-Smith, B.A., Alleyne, Caterham Valley; Julian T. Stephen, 22 Hyde Park Gate, W.; Lieut. William R. Thompson, R.G.A., Clarence Barracks, Portsmouth; Charles

R. Whitty, B.A., M.D., Minna Lodge, Hunstanton, Norfolk; Major Charles L. Williams, M.D, Indian Medical Service, Coimbatore, South India; William C. Wright, Charlevoix, Marlborough Park, Belfast; Lieut. Martin Young, 1st Battalion York and Lancaster Regt., Mhow, India.

Mr. A. J. Campbell, of Melbourne, was elected a Colonial Member, and Geh. Hofr. Prof. Dr. Wilhelm Blasius, of Brunswick, was elected a Foreign Member of the Union.

After a vote of thanks to the Council of the Zoological Society of London for the use of their rooms had been unanimously agreed to, the Meeting adjourned.

The Annual Dinner, subsequently held at the Trocadero Restaurant (Dr. F. DuCane Godman in the Chair), was attended by twenty-four Members and one Guest.

XXXIV.—*Notices of recent Ornithological Publications.*

[Continued from p. 304.]

62. *André's 'Naturalist in the Guianas.'*

[A Naturalist in the Guianas. By Eugène André, F.R.G.S., F.Z.S. With a Preface by Dr. J. Scott Keltie. London, Smith Elder & Co., 1904. 1 vol., 8vo.]

The instructive paper on the birds of the Orinoco Region by Count Hans v. Berlepsch and Mr. Hartert, published in the ninth volume of 'Novitates Zoologicæ' (see 'Ibis,' 1902, p. 505), was partly based on a collection of 1800 skins made by Mr. Eugène André on the Caura River, an important tributary of the Orinoco. We have now a most interesting account of the adventures met with by Mr. André while engaged in the exploration of this little-known river and in the formation of his collection. He did not, however, confine his attention entirely to birds, but also obtained many specimens of mammals, butterflies, and orchids.

Mr. André is evidently a highly cultivated and well-instructed man, with great enthusiasm for Natural History in all its branches, and writes in excellent style. His narrative contains many adventurous incidents, particularly the account of his last return from the Upper Caura, in which he lost all his precious collections, notes, and photographs, and barely escaped with his life. But what specially commends his work to our attention are the many good field-notes on the characteristic birds of the Venezuelan forests, such as the Tree-Ducks, Wood-Nightjars, Trumpeters, Curassows, Sun-Bitterns, and Cassiques, on all of which will be found valuable information given in a few pregnant sentences. We have, indeed, seldom come across a more instructive and engaging narrative, and can cordially recommend its perusal to all our friends. Two coloured plates by Keulemans illustrate the King Tody (*Muscivora coronata*) and the Paradise Tanager (*Calliste paradisea*).

63. '*Annals of Scottish Natural History.*'

[The Annals of Scottish Natural History, Nos. 49 & 50, January and April 1904.]

It is well known that the Hawfinch has gradually extended its range northwards during the last hundred years, and in the January number of the 'Annals' Mr. William Berry establishes the fact that this species now nests as far north as Fifeshire. That it is a resident in the south-east of Scotland is indicated by the occurrence of an adult (in a starved condition) at Tyninghame during the third week in February last (p. 126). The list of instances shewing the value of observations at lighthouses receives an important addition in Mr. W. Eagle Clarke's record of the occurrence of an example of *Emberiza pusilla* at the Pentland Skerries on October 15th; this being the first for Scotland and the third for Great Britain. A further proof of the interest taken in natural history at outlying stations is afforded by Mr. James Tomison's papers (pp. 16–26 and 91–98) on the inhabitants of Sule Skerry, belonging to the Orkney group. In October 1895 a lighthouse was erected, and there the author has spent the seven years which have furnished the valuable experiences now set forth. These appear to be conscientiously limited to personal observations, and consequently few particulars are given respecting that great breeding-place of Gannets and Guillemots, the Stack, about four miles off, to which, no doubt, Mr. Tomison's duties would not permit many visits. For what he has done he merits the warm thanks of ornithologists; and it will be remembered that on September 5th, 1902, Sule Skerry provided the second British example of the Greenish Willow-Warbler (*Phylloscopus viridanus*). Among the usual Notes, attention may especially be directed to Mr. William Evans's record of the remarkable visitation of Rough-legged Buzzards.—H. S.

64. *Arrigoni Degli Oddi's 'Manual of Italian Ornithology.'*

[Manuale di Ornitologia Italiana. Elenco descrittivo degli Uccelli Stazionari o di Passaggio finora osservati in Italia del Conte Dott. E. Arrigoni Degli Oddi. Milano, 1904. 1 vol., 12mo, 908 pp.]

This is a Manual of Italian Ornithology of small size but thick—the first, so far as we know, that has been issued in this form—and is likely to do much in popularising the study of bird-life in Italy and the adjoining districts. It is distinctly printed, and is well illustrated by 401 figures in the text besides 36 (uncoloured) plates, which in most cases are fairly good, though we cannot say that they are all of first-rate quality.

The first 160 pages are devoted to introductory matter, and contain a large amount of general information on the structure, distribution, migration, and other attributes of bird-life. Then follows the systematic portion, in which the 445 species recognised by the author as belonging to the Italian Ornis are described and discussed.

The arrangement and nomenclature employed are those of the author's 'Atlante Ornitologico' (see 'Ibis,' 1902, p. 657). As already stated, we do not quite agree with every point in them; but there is nothing extreme in the mode of treatment. It seems to us that we have before us a good sound piece of work, which is likely to be much appreciated wherever the charming tongue in which it is written is spoken or understood.

65. '*The Auk.*'

[The Auk. A Quarterly Journal of Ornithology. Vol. xxi. Nos. 1 & 2, January and April 1904.]

The first important paper in the January number is by Mr. Walter K. Fisher, who describes the manners and customs of the Albatroses (chiefly *Diomedea immutabilis* Rothschild), as observed on the Island of Laysan. It is profusely illustrated by photogravures, and many of the exemplifications of the capacity of these birds for social flirtations and quarrels, dancing, and sham fights are quaint in the extreme*. Mr. A. C. Bent follows with descriptions and illustrations of the nesting of the Roseate Spoonbill (*Ajaja ajaja*), White Ibis (*Guara alba*), and other Herodiones in Florida, where the birds are now protected. A continuation and conclusion of this paper, with further illustrations, is to be found on pp. 259–270 of the April number. Mr. Spencer Trotter's remarks on some Nova-Scotian Birds form an interesting contribution regarding a district which is little known to ornithologists; and Mr. O. Widmann's paper on the Birds of the Yosemite Valley demonstrates the efficacy of protection by the exclusion of the use of firearms in that area. Records of the occurrence of the Knot at San Diego, California, the Ruff at Rhode Island, and a Sanderling with rudimentary hind-toes at Ipswich, Mass., are among the General Notes for January.

In the April number Mr. Breninger has an interesting paper on the Birds of San Clemente Island, off Southern California; Mr. Snodgrass writes on the Land-Birds of Central and South-eastern Washington; and Mr. Eifrig makes a long contribution on the Birds of Allegany and Garrett Counties, Western Maryland. An essay by Mr. W. M. Wheeler on "The Obligations of the Student of Animal Behaviour" is followed by some characteristic correspondence between Audubon in his sixty-third year and Spencer F. Baird at the age of nineteen; these letters being communicated by Mr. Ruthven Deane. Other items are mainly of local interest.

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* For further details see below, p. 466, and 'Ibis,' 1904, p. 145.

In this category, however, must not be included a contribution which forms more than half of the January number, and deserves a paragraph to itself. We refer to the Report of the A.O.U. Committee on the Protection of North American Birds for the year 1903, by the Chairman, Mr. William Dutcher (pp. 97–208, pls. xii.–xviii.). The Audubon Societies and the contributors to the Thayer fund have every reason to be satisfied with the progress made, as is shown by the maps on which are indicated the States which take part in the work of protection. Among the suggestions for the future is the imposition of a tax upon cats, "for there is no doubt that millions of birds are killed in the United States and Canada every year by cats." As examples of what has been done a few instances may be given. In Florida between three and four thousand Pelicans have been raised on one Reservation; several species of Terns have enormously increased; and the colonies of Noddy and Sooty Terns on the Dry Tortugas are the delight of the naturalist-photographer. Against the plume-hunters warders are employed, fearless men, not to be trifled with, having the reputation of being the best rifle-shots in the vicinity, and they would "not hesitate to shoot when necessary." Of course, we do not advocate the employment of such methods of protection in this country, for it would be illegal to do so. But passing to the less "rough and ready" North-eastern States, we read highly encouraging reports from Maine, Massachusetts, and New Jersey. Space will not allow us to say more; but we recommend our readers to turn to this report, with its photogravure illustrations, and judge of the good work which is being done throughout North America.—H. S.

66. '*Avicultural Magazine.*'

[Avicultural Magazine. The Journal of the Avicultural Society. New Series. Vol. ii. Nos. 4–7, 1904. R. H. Porter, London. 8vo. Price 1*s.* 6*d.* per number.]

In these four numbers various writers treat of single species of birds, the most interesting of which are *Chrysotis guildingi*, *Geocichla cyanonotus*, and *Cinclosoma punctatum* (the two former each with a coloured, and the latter with a plain plate), while Mr. Russell Humphrys describes a ramble in Ceylon, and Mr. T. H. Newman relates experiments as to the fertility of some Turtle-Dove hybrids (plate). More noteworthy, however, are Mr. St. Quintin's articles on the breeding of the Great Bustard in captivity and on the nesting-habits of *Talegalla lathami*, to the second of which a paper by Mr. A. E. L. Bertling (the head keeper at the Zoological Gardens) acts as a supplement. The Editor has some interesting notes on the habits of *Phaps elegans* (plate) and gives reproductions of illustrations of the young of *Ardea candidissima* and of *Phasianus principalis*.

67. *Barrett-Hamilton on the Winter Whitening of certain Animals.*

[Abstract of a physiological hypothesis to explain the Winter Whitening of Mammals and Birds inhabiting Snowy Countries, and the more striking points in the distribution of white in Vertebrates generally. By Capt. G. E. H. Barrett-Hamilton. Proc. R. Irish Acad. xxiv. 1903, pp. 303–314.]

Naturalists are agreed that white coloration is a protection to animals in snowy countries, and Capt. Barrett-Hamilton now suggests that fat plays a direct part in animal coloration. He considers that the temporary cessation of metabolism of fat and the absence of pigment may be parts of the same process; while he finds that animals are, at least as a rule, lightest in colour where the accumulation of fat is greatest. In mammals, for instance, not only may new hairs in such parts be white, but the colour may be actually withdrawn from the old hairs, though no case has been found by the author in which the white hairs regained their pigment.

68. *Bartsch on the Herons of the District of Columbia.*

[Notes on the Herons of the District of Columbia. By Paul Bartsch. Smiths. Misc. Coll. vol. xxv. pp. 104–111.]

This is a nicely written account of the manners and habits of the Ardeidæ that are found in the District of Columbia, where the two arms of the Potomac "afford splendid grounds" for these and other water-birds. Nine of the eighteen members of the Heron-family that are found in North America are met with in this district and four have been detected breeding there. The most abundant species is the American Night-Heron (*Nycticorax nævius*), to which the author has paid special attention; but the other Herons are also specified and their habits described. The paper is illustrated by several photographic plates of nests, eggs, and young.

69. *'Cassinia.'*

[Cassinia. Proceedings of the Delaware Ornithological Club, No. vii. Philadelphia, 1903, 88 pp.]

The articles in this part are almost entirely of local interest; but the first of them is an account of the life and work of the well-known ornithologist J. K. Townsend, who not only visited the Western United States in company with Nuttall and discovered several new species of birds, but also proceeded with the same companion to the Sandwich Islands, and subsequently touched at Tahiti and Valparaiso.

70. *Clarke on the Migration of Birds.*

[Bird Migration in Great Britain and Ireland. Sixth and Final Report of the Committee, consisting of Professor Newton (Chairman), Rev. E. P. Knubley (Secretary), Mr. John A. Harvie-Brown, Mr. R. M. Barrington, Mr. A. H. Evans, and Dr. H. O. Forbes, appointed to work out the details of the Observations on the Migration of Birds at Lighthouses and Lightships, 1880–1887. Rep. Brit. Assoc. (Southport) 1903, 16 pp.]

Mr. Clarke's final Report summarises the movements on migration of the Starling and the Rook, those of the former species being singularly varied and not confined to any particular season, while the latter for the most part seeks our shores in autumn and departs in spring, when not a resident. Every ornithologist will regret that such excellent work should have reached its final stage, though doubtless the results in the case of further species would not have led to an extension of our knowledge commensurable with the labour required. We can never be too thankful to Mr. Clarke for his work, admirable alike in its clearness and accuracy, while, as the Committee observe, one main point has been abundantly proved, namely that species which are resident as a whole are decidedly migratory as regards individuals. The author's summaries have, moreover, been an excellent test of the reliability of the "Digest of Observations," as he himself tells us.

71. '*The Emu.*'

[The Emu. A Quarterly Magazine to popularize the Study and Protection of Native Birds. Official Organ of the Australasian Ornithologists' Union. Melbourne. Vol. iii. pt. 3. Price 4*s.* per part.]

A moiety of this part of 'The Emu' consists of an account of the Annual Congress of the Union in 1903, held for the first time in Tasmania, at the town of Hobart. The President, Col. W. V. Legge, whose portrait is given, reviews the work of the year, while suggestions are made for a Check-List of Australasian birds and for obtaining information from Lighthouses. Subsequently Mr. A. J. Campbell treats of the decade 1894–1903 from an ornithological point of view, and remarks on species which he considers to be ascribed to wrong genera, judging from oological characteristics. Mr. T. Carter continues his interesting notes on the region of the North-West Cape, Mr. A. W. Milligan discusses the Western *Gymnorhinæ* (plate), Col. Legge suggests some rectifications in the Tasmanian Ornis, Mr. F. L. Jardine reports encouragingly on the case of the Nutmeg-Pigeon (*Myristicivora spilorrhoa*), and in conclusion the usual general notes are given. There are plates of the nest of *Acanthornis magna*, of *Gymnorhina dorsalis*, and of the playground of *Scenopæus dentirostris*.

72. *Fisher on the Birds of Laysan.*

[Birds of Laysan and the Leeward Islands, Hawaiian Group. By Walter K. Fisher, U.S. Fish-Comm. Bull. 1903, pp. 1–39. Washington.]

Ornithologists may have supposed that Mr. Rothschild's splendid book had exhausted the subject of the birds of Laysan, but this seems not to have been quite the case. Mr. Walter K. Fisher, of Leland Stanford Junior University, spent a week in Laysan in May 1902, while on a cruise in the U.S. Fish-Commission Steamer 'Albatross.' He now gives us a most interesting series of notes, on what he truly calls "one of the most remarkable bird-islands in the world;" these make up the greater portion of the present report, the remainder relating to some of the other "Leeward Islands" of the Hawaiian group, which were also visited.

The number of species of birds found on Laysan and its adjoining islets is not great, there being only 18 sea-birds and 5 land-birds. But the birds are very remarkable for the multitude of individuals and for their "surprizing tameness."

"The effect of this is at first nearly overpowering. Birds are everywhere, and the noise is sometimes deafening. When we made our way through a populous colony of Sooty Terns we had to exercise much care to avoid crushing their eggs and treading on the birds, which struggled panic-stricken before us. If we would converse it was necessary to shout."

Many of the species are restricted to definite localities. Thus *Diomedea nigripes* breeds on the sand-beaches on the north, east, and south sides of Laysan, but not elsewhere. *Sula cyanops* is restricted to a narrow sedge-covered slope on the same sides. *Sterna lunata* chooses the summit of the littoral slope all round the island. *Sterna fuliginosa* encircles the islet in a wide band, inside the ring of *S. lunata*. *Œstrelata hypoleuca* burrows in the deep sand throughout the area covered with tall grass down to the open plain, where in favourable places it is replaced by *Puffinus cuneatus*, which encircles the central lagoon in a ring inside the enormous colony of *Œstrelata*.

Only three Passerine birds are mentioned—*Himatione freethi*, *Telespiza cantans*, and *Acrocephalus familiaris*, all of which were found breeding.

The memoir is illustrated by a coloured plate of the new Tern (*Procellisterna saxatilis*) discovered in Necker Island (see 'Ibis,' 1903, p. 416), and by a series of photographic views of the bird-life and scenery of the islands visited.

73. *Flower on the Zoological Gardens at Giza.*

[Government of Egypt, Public Works Department. Zoological Gardens, Giza, near Cairo. Report for the Year 1903. By Stanley S. Flower, Director. Cairo, 1904.]

Capt. Stanley Flower's report on the beautiful gardens under his care at Giza gives a favourable account of their progress and increase in popularity during the past year. Examples of 201 species of birds have been exhibited since October 1898, among which we see the names of such interesting forms as *Corvus umbrinus*, *Chrysotis rhodocephala*, *Buteo ferox*, and *Balæniceps rex*. No less than 71 species have been observed as visiting these well-planted gardens "of their own accord" during the same period. Among these are such attractive birds as *Aëdon galactodes*, *Emberiza cæsia*, *Ceryle rudis*, and *Œdicnemus scolopax*.

74. *Fulton on the Habits of the Long-tailed Cuckoo of New Zealand.*

[The Long-tailed Cuckoo. Abstract of a paper read by Dr. R. Fulton before Section D, Biology, at the Science Conference in Dunedin, January 11th, 1904.]

This paper contains a very complete and interesting account of the habits of the Long-tailed Cuckoo of New Zealand (*Urodynamis taitensis*), which were not well known to Sir Walter Buller when he wrote the second edition of his 'History of the Birds of New Zealand' in 1888. Like our Cuckoo (*Cuculus canorus*), the bird appears to be thoroughly parasitic. It is found in most of the island-groups of the Pacific, but visits New Zealand in the Antarctic summer for breeding purposes, and deposits its eggs in the nests of various small Passerine birds, who save it the trouble of incubation and devote unceasing attention to the young when they are hatched. Dr. Fulton gives a list of sixteen species which are known, with more or less certainty, to be the foster-parents of *Urodynamis*.

The author also discusses the reasons which may have given rise to this remarkable habit in Cuckoos and other birds.

75. *Hartert on the Birds of Wetter and other Islands near Timor.*

[The Birds of the South-west Islands Wetter, Roma, Kisser, Letti, and Moa. By Ernst Hartert. Nov. Zool. xi. p. 174 (1904).]

Mr. Hartert writes on the birds of the "South-west Islands," as the Dutch call them, which lie to the north and east of Timor. He has already described those of Dammer (Nov. Zool. 1900, p. 12), and now proceeds to tell us what the indefatigable collector Kühn has sent to Tring from Wetter, Roma, Kisser, Letti, and Moa. In an article in 'Notes from the Leyden Museum' (xxii. p. 225), Dr. Finsch has already treated of the ornithology of some of these islands from specimens in the Leyden Museum. But additional materials are now at Tring, and, as it is here pointed out, the subject is handled from a somewhat different point of view, as Dr. Finsch is a strong adherent of the old-fashioned binomialism, "not considering very slight differences sufficient for *specific* separation," while to Mr. Hartert "no differences are too slight for *subspecific* separation, if connected with geographical separation."

After a short description of the five islands of which Wetter, only 40 kil. north of Timor, is the largest and has some "very striking peculiar species"—such as *Alopocœnas hoedti*, *Sphecotheres hypoleucus*, *Stigmatops notabilis*, and *Myzomela kuehni*, "although the Fauna is mostly Timorese,"—the author gives us a general list of the species accompanied by numerous notes and critical remarks. In all 140 species and subspecies are catalogued, amongst which the following are described as new to science:—

Ptilonopus cincta ottonis, *Ptilonopus xanthogaster rufipileum*, *Halcyon australasia interposita*, *H. enigma*, *Cyornis hyacinthina kuehni*, *Gerygone kisserenis sequens*, *Rhipidura rufiventris pallidiceps*, *Pachycephala par*, *P. par compar*, *Cinnyris solaris exquisita*, *C. s. degener* (ex Flores), *Oriolus flavo-cinctus migrator*, *Oriolus finschi*, and *Calornis kuehni*.

76. *Madarász on new Birds.*

[(1) Drei neue Palæarctische Vogelarten. Von Dr. Julius v. Madarász. Ann. Nat. Mus. Hungar. 1903, pp. 559, 560.

(2) Ueber neue Formen von *Halcyon smyrnensis* und *Alcedo ispida*. *Id. op. cit.* 1904, pp. 1, 2.

(3) Neue Vogelarten aus Venezuela. *Id. t. c.* pp. 115, 116 (pl.).

(4) Zur Ornis Deutsch-Ostafrikas. *Id. t. c.* pp. 203–206.]

Dr. Madarász has sent us four short papers in which, besides new forms of Kingfishers, he treats of twelve new species from various parts of the world. *Merula algira*, from the north-east coast of Algiers, approaches the Canary Island *M. cabrera*, but only the male is known; *Cinclus kibarti*, from the Krasnoiarsk district, lies between *C. sordidus* and *C. bilkevitchi*; *C. caucasicus*, from the Caucasus, is near *C. cashmeriensis*; *Thryothorus consobrinus*, *Strix stictica*, and *Eupsychortyx horváthi* (col. pl.) come from Merida in Venezuela, and are placed next to *T. genibarbis*, *S. flammea*, and *E. cristatus* respectively: German East Africa furnishes, through M. Katona, *Chætops kilimensis* from Moschi, *Cisticola katonæ* from Boma-Gomb, *C. pictipennis* from Moschi, *Chlorophoneus miniatus* from Kiboscho, *Laniarius ambiguus* from Kiboscho and Moschi, *Prodotiscus reichenowi* from Moschi. *Elainea gularis* and *Dendrexetastes berlepschi* (Ann. Nat. Mus. Hungar. 1903) are now reduced to synonyms of *Mecocerculus sitophagoides* (Bp.) and *Dendrocolaptes validus* (Tsch.) respectively.

77. *North on the Nest of a Bower-bird.*

[Description of the Nest of the Guttated Bower-bird, *Chlamydodera guttata*. By A. J. North, C.M.Z.S. Rec. Austr. Mus. vol. v. pt. 2 (1903).]

Mr. North describes and figures the nest of *Chlamydodera guttata* obtained at Illamurta, Central Australia, by Mr. C. E. Cowle. Only two instances had been previously recorded. The eggs have been described and figured in the second part of the ‘Nests and Eggs of Birds found breeding in Australia and Tasmania.’

78. *North on a new* Pachycephala.

[Description of a new Species of *Pachycephala*. By Alfred J. North, C.M.Z.S. Rec. Austr. Mus. vol. v. pt. 2 (1904).]

The species described is *P. howensis*, from Lord Howe Island, allied to *P. gutturalis*, but distinguished by its olive-green tail, with a smaller and less distinct subterminal blackish-brown band.

The name "*meridionalis*" is suggested for the darker-grey-tailed form of the group of *P. gutturalis* from South Australia and West Victoria, in case it may be thought necessary to distinguish it from the West-Australian *P. occidentalis*.

79. *Wood and Finn on Birds from Upper Burmah.*

[On a Collection of Birds from Upper Burmah. By Lieut. H. Wood and F. Finn. J. A. S. B. lxxi. part ii. pp. 121–131 (1902).]

The collection there described was made by Lieut. Wood in the hilly districts of Upper Burmah, between 22° and 20° 15′ N. lat., and presented by him to the Indian Museum, Calcutta, where it was specially acceptable as containing examples of several rare species. After a general description of the country, the localities visited are mentioned, and their exact positions are given. The list enumerates 77 species, among which *Parus palustris* and *Babax lanceolatus* are new to the Indian Fauna. In case the *Babax* should prove to be different to the Chinese bird of David and Oustalet, the alternative name *B. woodi* is suggested for it. A male specimen of *Phasianus humiæ*, obtained at Kampetlet, differs slightly from the typical form of Munipur.

XXXV.—*Letters, Extracts, Notices, &c.*

We have received the following letters addressed to "The Editors of 'The Ibis'":—

Sirs,—As in last year's 'Ibis' (1903, p. 140) the announcement of the scientific expedition sent out by the Imperial-Royal

Academy of Sciences of Vienna to Northern Brazil was noticed, allow me to offer a few remarks upon the subject. The journey of the expedition in the three Brazilian States of Bahia, Piauhy, and Maranhão, together with the stay at Pará, occupied about eight months, from the middle of February to the middle of October 1903. The route selected was through the following places, in each of which a more or less lengthened stay was contemplated—Bahia, Zoazeiro on the river S. Francisco, Barra do Rio Grande, Santa Rita, the Lake of Paranaguá, S. Antonio de Gilboez, Santa Philomena, and, lastly, down the Rio Parahyba to its mouth. This long journey approaches the route of the celebrated traveller Spix in 1818 in two points only, and it was the leading idea of our expedition to attempt the solution of certain problems in the geographical distribution of animals in a district in which, for so long a period, little or nothing had been observed or collected. The weather and climate were favourable during the whole of our journey, and the people of the country traversed, as well as our personal staff, exerted themselves in a most satisfactory way to assist us in our work.

The extraordinarily dry and uniform "Catinga"-forest, which occupies the greater part of this extensive area, is not specially rich in birds. The most numerous examples of this class of animal life are members of the Neotropical families Tyrannidæ, Dendrocolaptidæ, and Formicariidæ, and to these groups our attention was specially directed. Of Psittaci, again, we obtained specimens of eight species, and of the Cracidæ and Tinamidæ examples of about eight species each in this district, without intruding into the original forest-region. We were particularly fortunate in our collection of the Raptores of the "Catinga"-region.

Our journey ended in Pará, where the members of the expedition received a most hearty welcome and hospitable reception from Dr. Goeldi, the Director, and the other members of the scientific staff of the Pará Museum. I hope and believe that the collections made during this expedition will receive careful examination, and that the result will materially increase our knowledge of one of the least known portions of the Neotropical Fauna.

Yours &c.,
OTHMAR REISER.

Sarajevo, Bosnia,
March 3rd, 1904.

[Further information about this expedition will be found in the 'Ornithologische Monatsberichte' for March last (vol. xii. p. 49).—EDD.]

SIRS,—I have been much interested in the bird from New Guinea lately described by Messrs. Rothschild and Hartert (Nov. Zool. x. p. 448, pl. xiv. f. 1) under the name of *Eafa maculata.* The authors have attributed this remarkable type to the Meliphagidæ, although the peculiar structure of the bill, "not longer than the head and very wide, not running into a sharp point, but rounded off, just before the tip," points to quite a different family. My impression is that the bird belongs to the Dicæidæ in the neighbourhood of the genera *Melanocharis, Urocharis, Pristorhamphus,* and *Rhamphocharis.* It is to the last-named genus that *Eafa* seems particularly akin; the bill is very similar, only somewhat longer; in the style of colouring also there is some likeness between *Eafa maculata* and the female of *Rhamphocharis crassirostris,* which has the upper and under parts spotted with whitish, although not so regularly as it appears in the figure of *E. maculata.* The white spots at the tips of the inner webs of the outer rectrices are almost of the same style in both birds.

Yours &c.,
T. SALVADORI.

Turin, Zool. Museum,
April 26th, 1904.

SIRS,—In the second part of the work 'Die Vögel der paläarktische Fauna,' p. 224, Mr. Hartert identifies my *Ammomanes assabensis* (Boll. Mus. Tor. no. 425, 1902) with *A. samharensis* Shell. B. of Afr. iii. p. 99, pl. xxi. fig. 1. The latter was described from Amba, in the highlands of Abyssinia; while my species is from Assab, a low sandy place in a totally different region, not on the coast of Abyssinia, as stated by Mr. Hartert, but on the coast of the Danakil country, which we may practically take as part of Somaliland, which, as is well known, has a fauna different from that of Abyssinia.

My two specimens of *A. assabensis*, compared with the description and figure of *A. samharensis*, differ in having no rufous tinge whatever on the outer web of the remiges and rectrices or on the sides of the head; the bill looks smaller and straighter, and the dimensions are altogether smaller.

As stated in the original description, *A. assabensis* is very similar to *A. saturatus* Grant, only much smaller; the latter is from Southern Arabia, very near Assab, on the opposite coast of the Red Sea, approaching the strait of Bab-el-Mandeb.

Yours &c.,
T. Salvadori.

Turin Zool. Museum,
June 23rd, 1904.

Sirs,—The drumming of the Woodcock and the bleating of the Snipe are well-known sounds in their respective haunts in spring-time. Hardly less remarkable are the clapping sounds made by the Common Wood-Pigeon and by certain Larks of the genus *Mirafra* when the ecstacy of love overtakes them. But these are exaggerated instances of flight-sounds, which almost divert our attention from the fact that hardly any bird really flies silently. The rushing noise made by a flock of Starlings as they pass with arrow-like swiftness to or from their resting-places in early morning or late evening cannot easily be forgotten, nor can the strange throbbing vibrations which reach the ear of anyone who happens to be under the aerial path of a flock of Cranes when flying low. But even a bird no larger than a Sand-Grouse or a Rook can make the welkin hum with its muscular wing-beats. I have seen and heard all these things, but not one of them seemed so wonderful as the weird noises emitted (as I suppose by the wings) of a party of Waders which came under my notice on the road from Kimberley to Schmidt's Drift in South Africa. It was in the dusk of the evening of the 9th of August, 1902, that I witnessed this remarkable exhibition of bird-power. My companion and I were looking for birds by a small dam, when we heard a most curious and unusual sound far away in the sky overhead. It suggested some mysterious phenomenon of a thunderstorm or even of the supernatural—an indescribable, almost metallic hurtling through the air. More than once it was repeated, until presently we perceived that it emanated from a party of five or six birds, apparently *Totanus stagnatilis*, about to alight, in the course of a series of violent avalanche-like descents from the heights above. Every time a bird, as it were, crashed through the air in its headlong descent the sound was repeated. But, unluckily, not one of them reached the ground, as a member of our party in arriving frightened them away, so that, although I knew that they were Waders, I did not manage to identify them in the dusk. I think that the sounds were probably an intensification of those which I have heard emanating from the flocks of Ruffs and Reeves (*Machetes pugnax*) which frequent the dams of the Orange River Colony during the South African summer, and they, too, were doubtless only an amplification of those caused by the upward and downward swooping of the Dunlins of our own coast. Still, I have never heard anything like it before, and it so interested and impressed me that I should much like to receive the opinion of other and more experienced ornithologists on the question.

Yours &c.,

G. E. H. Barrett-Hamilton.

Kilmanock House,
Arthurstown, Ireland,
March 29th, 1904.

Sirs,—I have read with great interest Mr. Eagle Clarke's paper on "Bird-migration observed at the Kentish Knock Lightship" ('Ibis,' 1904, p. 112). As I spent nearly every day in September last searching for and watching the migrants in East Sussex, I venture to offer a few remarks on it.

Mr. Eagle Clarke says (p. 116) :—"Numbers of such migrants passed between the 18th and 29th of September. . . . Amongst the rarer species observed were an Icterine Warbler and a Blue-headed Wagtail." Later on (p. 117), he continues : "On the 25th September a Richard's Pipit was captured at the lantern."

On referring to my Diary, I find the following notes :—

Sept. 19. Numbers of Redpolls, several Pied Flycatchers, and numbers of Ring-Ouzels appeared near Hastings.

Sept. 21. During this past night the wind shifted from N.N.E. to S.E. On this day there was a very large movement of Siskins, Redstarts, Pied Flycatchers, Willow-Wrens, Chiffchaffs, and Swallows.

Sept. 22. Extraordinary numbers of Curlews near Rye, flying from west to east. I also saw adult Grey Plovers, and some Godwits and Black Terns. On the same day I shot a pair of Tawny Pipits.

Sept. 24. I shot another pair of Tawny Pipits. Hundreds of Meadow-Pipits came in from the sea and settled on the marsh (Rye) in large flocks.

Sept. 25. I shot a Great Reed-Warbler (*Acrocephalus turdoides*) at St. Leonard's.

Sept. 26 & 28. Many Blackcaps, Whitethroats, and Siskins appeared.

Sept. 29. Numbers of Pied Wagtails appeared.

During the first week in October I saw unusual numbers of Little Stints and a White Wagtail. On October 6th an Orphean Warbler was shot at St. Leonard's ; and the same day I saw countless numbers of Meadow-Pipits moving from east to west along the shore. As I left home for several weeks on October 8th, I am not able to add any more notes.

Yours &c.,
MICHAEL J. NICOLL.

St. Leonard's-on-Sea,
May 17th, 1904.

Sirs,—During the past winter I have had the satisfaction of verifying the fact that the Carrion-Crow (*Corvus corone*) visits Sicily in winter, and is to be found there in considerable numbers between the months of October and April.

The occurrence of this species in Sicily has hitherto been looked upon as extremely doubtful, notwithstanding Malherbe's inclusion of it among the birds of the island, and it is only now that the doubt may be considered as entirely removed and *C. corone* allowed to take its place as a member of the Sicilian Ornis.

On the 30th of January last, through the kindness of a friend, I received a few specimens of birds, in the flesh, from the neighbourhood of Comiso in the Province of Syracuse, and among them was delighted to find an undoubted example of *C. corone*. I immediately wrote to my friend at Comiso for some more of the birds, and in a few days' time received two other specimens of the Carrion-Crow, together with three of the Rook (*C. frugilegus*), all obtained in the same district of Comiso. Finally, on the 21st of March, I received a fourth example of *C. corone* from the vicinity of Ragusa, also in the Province of Syracuse.

From the local "cacciatori" of the above-mentioned districts I learn that the "Cornacchie" (no distinction appears to be made by the Sicilian country-folk between the Crow and the Rook, and probably, through want of opportunity, the difference between the two species has not been noticed by them) visit the province of Syracuse regularly in October and November, spending the winter months there, and leaving again in the spring. Apparently neither species nests in Sicily.

The southern and south-eastern parts of Sicily seem to attract both the Crow and the Rook more than do the northern and central districts of the island, although in the latter also either one or both species may apparently be met with occasionally, and I have myself seen what, at the time, I took to be a flock of Rooks near the small town of Mezzojuso in the interior of the Province of Palermo. *C. frugilegus*, I may here observe, may often be seen in winter-time in large flocks on the ploughed fields and cultivated land lying between Syracuse and Catania. The species has been mentioned by Doderlein and other writers on Sicilian birds as a regular winter visitor to the island.

I have lately also had the pleasure of obtaining in Sicily a specimen of Nordmann's Pratincole (*Glareola melanoptera*). This example, an adult male, was sent to me in the flesh on the 27th of April last from Marsala, having been shot in that neighbourhood.

This eastern species, so far as I am aware, has never hitherto been recorded from Sicily, and apparently it has only once before been obtained in Italy, the solitary instance of its occurrence in the peninsula being that recorded by Count Arrigoni as having taken place on the 5th of May, 1892, at Bagnolo, near Vicenza (Atl. Orn. p. 362).

Another "rara avis" for Sicily came into my possession last November in the shape of an adult male of the Lesser Redpoll (*Linota rufescens*), which was actually shot in my garden close to the town of Palermo, during my absence. This species appears to have been hitherto unrecorded in Sicily and Southern Italy generally, although it occurs in the north of the peninsula, and has occasionally been met with even as far south as Tuscany.

Though usually found in North Italy merely as a winter migrant, there appear to be undoubted instances of this species having nested in the Italian Alps.

Yours &c.,

Palermo, JOSEPH I. S. WHITAKER.
June 4th, 1904.

An Ornithologists' Union for South Africa.—We learn with much pleasure that a scheme has been started for the formation of an Ornithologists' Union for South Africa. The opportunity was taken of the Second Meeting of the South-African Association for the Advancement of Science, in Johannesburg, to inaugurate this movement; and its supporters were summoned to the Government Normal Schools at that city, on April 9th last, to discuss the subject.

Mr. W. L. Sclater, Director of the South-African Museum, Cape Town, presided, and representatives from all the South-African Colonies were present. After some preliminary remarks, the Chairman called upon Mr. A. L. Haagner, of Modderfontein, M.B.O.U., who, in response, gave some particulars of the steps which he had taken towards the realisation of the object in view. From this it appeared that a previous movement for the inception of a Union had been stopped by the late war. Now, thinking the time opportune for carrying such a movement into effect, Mr. Haagner had consulted with such well-known ornithologists as Mr. Thomas Ayres, Mr. W. L. Sclater, and Dr. Gunning, and as a result had circularised numerous people throughout the sub-continent. He had received many gratifying replies, and had the names of forty intending members, twenty-one of whom lived in the Transvaal, twelve in the Cape Colony, four in Natal, two in the Orange River Colony, and one in Rhodesia. He suggested that Pretoria, with its zoological garden and museum, would form excellent headquarters.

Dr. Gunning moved formally that a South-African Ornithologists' Union should be formed, with a committee to frame rules and consider the matter of a journal, the committee to report on the subject.

Mr. Bicknell seconded the motion, and said that, to make the Union a success, they must have the right people and a journal. They had promises of support from some of the first men in South Africa, but the journal would be a great expense.

The motion was carried, and the following committee formed to report upon it:—Mr. Sclater (Cape Colony), Dr. Gunning and Mr. Bicknell (Pretoria), Messrs. A. W. Millar (Durban), Alexander and Ellamor (Johannesburg), W. Macdonald (Pretoria), and Mr. A. C. Haagner (Modderfontein), Hon. Secretary *pro tem.*

An address was afterwards given by Mr. W. L. Sclater on Ornithological Unions in America, England, and elsewhere.

Mr. Haagner requests that any British ornithologist who may wish to cooperate in this movement will communicate with him, "Dynamite Factory, Modderfontein, Transvaal."

The Deutsche Ornithologische Gesellschaft.—The first number of the 'Journal für Ornithologie' for the present year contains a list of the Members of the German Ornithological Society. The President is Dr. R. Blasius, the Vice-President Herr Schalow, while Dr. A. Reichenow is the General Secretary, Prof. Matschie the Vice-Secretary, and Herr Deditius the Treasurer. The nine Honorary Members are Prof. Möbius, Dr. Bolle, Prof. Collett, Herr Herman, Dr. Krüper, Prof. Newton, Count Salvadori, Dr. Sclater, and Dr. R. B. Sharpe. There are 138 Ordinary Members.

Dr. Finsch.—We are sure that all our ornithological friends will join us in feeling regret that Dr. Finsch has resigned his appointment at the Leyden Museum, in order to take charge of the new Ethnographical Division of the Municipal Museum at Brunswick. Dr. Finsch, as we all know, is deeply interested in Ethnology, and will, no doubt, be glad to return to his fatherland. But we shall be very sorry not to have his assistance at Leyden, where he has done so much good work of late years. Schlegel, who was appointed Conservator of the Ornithological Department in 1828 and Director of the whole Museum in 1858, catalogued some 18,000 specimens of birds, representing 2300 species, in his 'Muséum d'Histoire Naturelle des Pays-Bas,' up to 1882. After that time little was done among the birds until 1898, when Dr. Finsch took up the matter and began a new Catalogue, which contains entries of some 13,000 specimens, referable to 3000 species. We trust that an active ornithologist may be found to continue Dr. Finsch's work.

Hart's Museum, Christchurch.—We regret to learn that there is little prospect of carrying out the plan of removing Hart's Museum to Bournemouth, according to the arrangement referred to in our January number (above, p. 170). The necessary sum, it appears, cannot be obtained at Bournemouth, although every effort has been made. We venture to suggest that the citizens of Southampton should take the matter up, as the Hart Museum contains a valuable series of Hampshire birds, well deserving proper display. The present collection of birds at Hartley College is in bad order and very imperfect, and ought to be replaced by another more worthy of the city of Southampton.

The U.S. National Museum.—In the 'Smithsonian Report' for 1901-2 (recently issued), under the section relating to the Department of Biology, of which Mr. F. W. True is Head Curator, the accessions to the collection of birds are described as follows:—

A valuable series of East-Indian birds, 281 in number, obtained in exchange from the Leyden Museum. A series of 161 Brazilian birds, obtained in exchange from the Paulista Museum, São Paolo, Brazil. Twelve birds from Cocos Island, including several specimens of the rare *Cocornis agassizi* (*cf.* 'Ibis,' 1903, p. 427). A specimen of the Thick-billed Parrot (*Rhynchopsitta pachyrhyncha*) from Arizona, being the first of this species obtained within the limits of the United States, presented by Mr. R. D. Lusk. We also learn that Mr. H. W. Henshaw has presented 14 rare Hawaiian birds, and that Mr. A. Boucard has contributed 16 Humming-birds in addition to previous donations. The collection of birds' eggs has likewise received important accessions during the year, amongst which are eggs of the Everglade Kite (*Rostrhamus sociabilis*), of *Vireo atricapillus* from Texas, and also of *Larus schistivagus* and *Helminthophila peregrina*, both previously unrepresented in the collection.

From what is stated in the Report of the Assistant-Secretary (*op. cit.* p. 13), it would appear that the collections of the National Museum are very badly housed, unless, as we trust may be the case, great improvements have been recently effected. "An inspection of the buildings," we are told, "shews conditions which are very deplorable. Every branch is seriously hampered by the total inadequacy of the space assigned to it, and the proper disposition of the specimens has long ago become impossible, with the result that year after year valuable collections, often of large extent, have been packed away in insecure rented buildings, where they are, moreover, inaccessible." The halls are overcrowded, and an increase in space of from one-half to two-thirds at least is required to display their present contents properly.

The Scotch Antarctic Expedition.—Mr. W. L. Sclater writes from Cape Town (May 9th) that he has just had the pleasure of greeting Mr. W. S. Bruce and the Officers of the Scotch Antarctic Exploring Ship 'Scotia,' on their return from their eighteen months' adventures in the South Polar Seas. The 'Scotia' had passed the previous winter at a harbour in the South Orkney Islands, where a new station for magnetic and meteorological observations had been established, and had made lengthened explorations in the adjacent seas. Mr. W. L. Sclater has examined the collection of sea-birds made by the 'Scotia,' which he says is very ample, and contains examples of what is apparently a new Albatross of the genus *Phœbetria.* On her way to the Cape the naturalists of the 'Scotia' had landed on Gough Island, a remote outlier of the Tristan d'Acunha group, and had obtained examples of the flightless Rail, *Porphyriornis comeri,* described by Dr. Allen in 1892 (see Bull. Am. Mus. N. H. iv. p. 57), and also of an apparently new Finch, probably allied to *Nesospiza acunhæ* of Tristan d'Acunha and Inaccessible Island (see 'Challenger' Reports, Zool. ii. p. 112, pl. xxiv.).

The Pennant-winged Nightjar at Lake Tana.—In his recently published 'Sporting Trip through Abyssinia,' Major Powell-Cotton tells us (p. 284) that he repeatedly noticed a pair of curious-looking birds flitting along the shores of Lake Tana. "It seemed for all the world as if each had a couple of attendant butterflies always fluttering just a little above it. At last, while I was lying motionless, half in and half out of a puddle on the rocks, one of them came and hovered about close to me, and I then got the solution of the puzzle. The butterflies were two streamers, each of which ended in a feathery tuft, the fine connecting wire-quills being quite invisible at a little distance in the dim light. The birds, as I have since ascertained, were the Pennant-winged Nightjar, *Macrodipteryx vexillarius*."

The Honey-guide in S.E. Africa.—"On the way [to Narugwe's Kraal on the Pungwé] our attention was drawn to a little Honey-bird or Honey-guide (*Indicator sparmani*: *Incini* of the Zulus). On following it, we were led to a gnarled tree standing on the plain, and soon saw the hole in which the bees had taken up their quarters. With the aid of an axe and burning bunches of grass, and a smoking fire at the foot of the tree, a couple of our boys succeeded in securing a few of the combs, but they were rather 'poor.' After a few tit-bits had been placed on one side for our little guide, we proceeded on our journey."—*Findlay's 'Big-Game Shooting in South-east Africa,'* 1903.

The Guinea-fowl of the Waso Nyiro.—The Vulturine Guinea-fowl (*Numida vulturina*) appears to be plentiful on the River Waso Nyiro, north of Mt. Kenia, British East Africa. Mr. Arkell-Hardwicke ('An Ivory Trader in North Kenia,' p. 206) writes as follows:—

"I had a good time amongst the Guinea-fowl, which here were of the Vulturine variety. They were exceedingly plentiful, and I managed to bag five in a very few minutes, all large and very handsome birds with long tails and light blue breast-feathers. They are most difficult birds to shoot, as they very seldom rise, but run over the sand at a great rate, keeping just out of effective range. In the absence of a dog the only plan is to run after them at full speed till by gaining on them—no easy task—they are compelled to get up."

The Spanish Colony of Rio de Oro.—In our notice (Ibis, 1904, p. 152) of Mr. Hartert's paper upon a collection of birds from the Spanish colony of Rio de Oro, on the west coast of N. Africa, we commented on its disappointing character, and suggested further researches, as the locality is quite unexplored and is interesting as being intermediate between Morocco and Senegal. We have now ascertained that there is no difficulty in going there, as the Canary Interinsular Mail Steamship Company, under contract with the Spanish Government, runs a boat there once every month, and offers return tickets from Teneriffe to Rio de Oro for the sum of £2 10*s*. Here is a fine opportunity for one of our wandering brotherhood to visit a new country! At the same time we are told that Rio de Oro is not an attractive place (in spite of its name), as it is not safe to venture far from the walls of the Spanish fort without an escort, the natives being bitterly hostile.

Waxwings in Italy.—Writing in 'Nature' of March 3rd last, Dr. H. H. Giglioli, of Florence, calls attention to the visit of flocks of the Waxwing to North Italy last winter. He says:—"This winter we have had a considerable invasion of that beautiful northern bird, the Waxwing (*Ampelis garrulus*). During December and January last they appeared in hundreds in our northern provinces, and from Vicenza, Padova, and Verona spread in flocks westward and southward. I received the first specimens on December 18th, 1903, from Vicenza, and the last, from Barberino di Mugello (Florence) and from Fano (Marche), on January 1st and 15th. I also heard from Nice that more than 200 specimens of this bird, said to have come from Corsica, had been sold in the market there."

The Percy Sladen Memorial Fund.—We learn from 'The Times' of June 20th, that Mrs. Percy Sladen, the widow of Mr. Percy Sladen, a well-known zoologist, at one time Secretary of the Linnean Society, has given the sum of £20,000 to Trustees, who are directed to apply the interest of it to the promotion of scientific research, especially in the sciences of Zoology, Geology, and Anthropology. The first Trustees are Dr. Tempest Anderson, Mr. Bailey Saunders, Mr. Henry Bury, Dr. Henry Woodward, Prof. Howes, and Prof. Herdman. Ornithology, of course, comes within the scope of this magnificent gift, and applications relating to our branch of Zoology will, no doubt, receive due consideration from the Trustees.

THE IBIS.

EIGHTH SERIES.

No. XVI. OCTOBER 1904.

XXXVI.—*On some rare or unfigured Eggs of Palæarctic Birds.* By H. E. Dresser, F.Z.S., M.B.O.U., &c.

(Plate X.)

In continuation of former papers on the subject *, I now beg leave to offer to the readers of 'The Ibis' some further notes on rare or unfigured eggs of the birds of the Eastern Palæarctic area, with illustrations.

(1) Lusciniola aëdon. Thick-billed Warbler. (Pl. X. figs. 1, 2.)

Lusciniola aëdon Dresser, Man. Pal. B. p. 124.

This Warbler is not uncommon in Dauria, where Messrs. Dybowski and Godlewski found it nesting almost everywhere. An egg obtained by these gentlemen was figured as long ago as 1873 (J. f. O. 1873, Taf. i. fig. 1) by Taczanowski.

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* See 'Ibis' 1901, p. 445; 1902, p. 177; 1903, pp. 88, 404; and 1904, pp. 106, 280. In the last paper I regret to find that an error has occurred in the "Explanation of the Plate" (p. 283). Figures 1 and 3 represent the eggs of *Pycnonotus leucotis*, and figures 4 and 5 those of *Chimarrhornis leucocephalus*.

The bird arrives in Dauria late in May, and is found breeding in the latter half of June. The nest is placed on a shrub, often a *Spiræa*, at a height of from one to five feet from the ground, and five eggs usually make the full clutch, though, in rare cases, four and six have been found. The nest is constructed of dry grass, neatly lined with finer grass and sometimes with horsehair. When fresh the ground-colour of the eggs is rosy red, very seldom pale rusty red, but it soon fades.

The eggs figured were obtained by Dr. Dybowski in Amoorland.

(2) MOTACILLA MADARASPATENSIS. Large Pied Wagtail. (Pl. X. figs. 3, 4.)

Motacilla madaraspatensis Dresser, Man. Pal. B. p. 199.

The eggs of this bird, so far as I know, have never been figured.

This Wagtail places its nest in a hole in a bank, under a stone, in the woodwork of a bridge, and in other suitable places, but always in the neighbourhood of water. The eggs are usually laid in March, April, or May. The character and materials of the nest are very variable; it may be a mere depression in the bare earth or a neat shallow structure, formed of fine twigs, grass, roots, wool, feathers, hair, rags, or any soft materials. The eggs, usually four in number, vary greatly in size and shape from a long to a rather broad oval, and in colour from greenish white with greenish-brown markings to earthy white with dingy white markings. In size they average 0·9 by 0·66 inch. The examples figured are from near Ahmednugger, India, where they were taken by Lieut. Barnes on the 29th of April, 1893.

(3) ORIOLUS KUNDOO. Indian Oriole. (Pl. X. figs. 16, 18.)

Oriolus kundoo Dresser, Man. Pal. B. p. 227.

This bird, the representative in the East of our Golden Oriole (*O. galbula*), breeds from May to August, but chiefly in June and July. Its nest, in form a moderately deep purse or pocket, is hung from the forks of two twigs, and is constructed of fine grass and slender strips of bark. According to Mr. Oates, some nests contain no extraneous matter, but others have all kinds of odds and ends—scraps of newspaper and cloth, shavings, rags, snake-skins, and threads—woven into the exterior, while the interior is always neatly lined with fine grass-stems. The fabric varies a good deal in size.

The eggs, usually numbering three or four in a clutch, though sometimes only two, are of a glossy white, suffused with delicate salmon-pink when fresh and unblown, and somewhat sparingly spotted and blotched, chiefly at the larger end, with black; they closely resemble those of *Oriolus galbula*. They vary, according to Mr. Oates, in length from 1·03 to 1·32, in breadth from 0·75 to 0·87; while the average size of fifty eggs was 1·11 by 0·81 inch.

The specimens figured were taken by Mr. William Jesse near Lucknow in 1898.

(4) ORIOLUS INDICUS. Black-naped Oriole. (Pl. X. figs. 14, 17.)

Oriolus indicus Dresser, Man. Pal. B. p. 228.

This Oriole breeds in Dauria, the Ussuri country, and Northern China, but I do not find any particulars on record respecting its nidification, except that it agrees with *Oriolus galbula* in the position and construction of its nest.

The two eggs of this species now figured were obtained by the brothers Dorries in Amoorland in 1889.

(5) CYANOPTILA CYANOMELÆNA. Japanese Blue Flycatcher. (Pl. X. figs. 5, 6.)

Cyanoptila cyanomelæna Dresser, Man. Pal. B. p. 258.

This Flycatcher breeds in Japan, and also, according to Godlewski, in the Ussuri district, though he never succeeded in finding its nest there. The nest is placed in a mossy bank, and the eggs, usually five, but sometimes six in number, are laid from early in May to the middle of July. They vary but little, and are greyish white with very faint darker markings, chiefly at the larger end. The specimens in my collection average 0·76 by 0·64 inch in dimensions.

(6) LANIUS VITTATUS. Bay-backed Shrike. (Pl. X. figs. 7, 8.)

Lanius vittatus Dresser, Man. Pal. B. p. 237.

According to Mr. Oates, this Shrike breeds throughout the plains of India, and in the sub-Himalayan ranges up to an elevation of fully 4000 feet; while its eggs are to be found from April to September, but chiefly in the latter half of June and July. The nest is placed in the fork of a slender bough, usually in a small tree or bush, and is compactly constructed of twigs, grass-stems, cobwebs, wool, rags, feathers, and occasionally a little grass; it is lined with tow, hair, bits of cotton, and fine grass. The number of eggs is usually five, but occasionally six. Those figured were obtained by Mr. Jesse near Lucknow, on the 5th of June, 1901.

The eggs vary a good deal in size, but Mr. Oates gives the average measurements of forty-five as 0·83 by 0·66 inch.

(7) TERPSIPHONE PARADISI. Indian Paradise Flycatcher. (Pl. X. figs. 9, 10.)

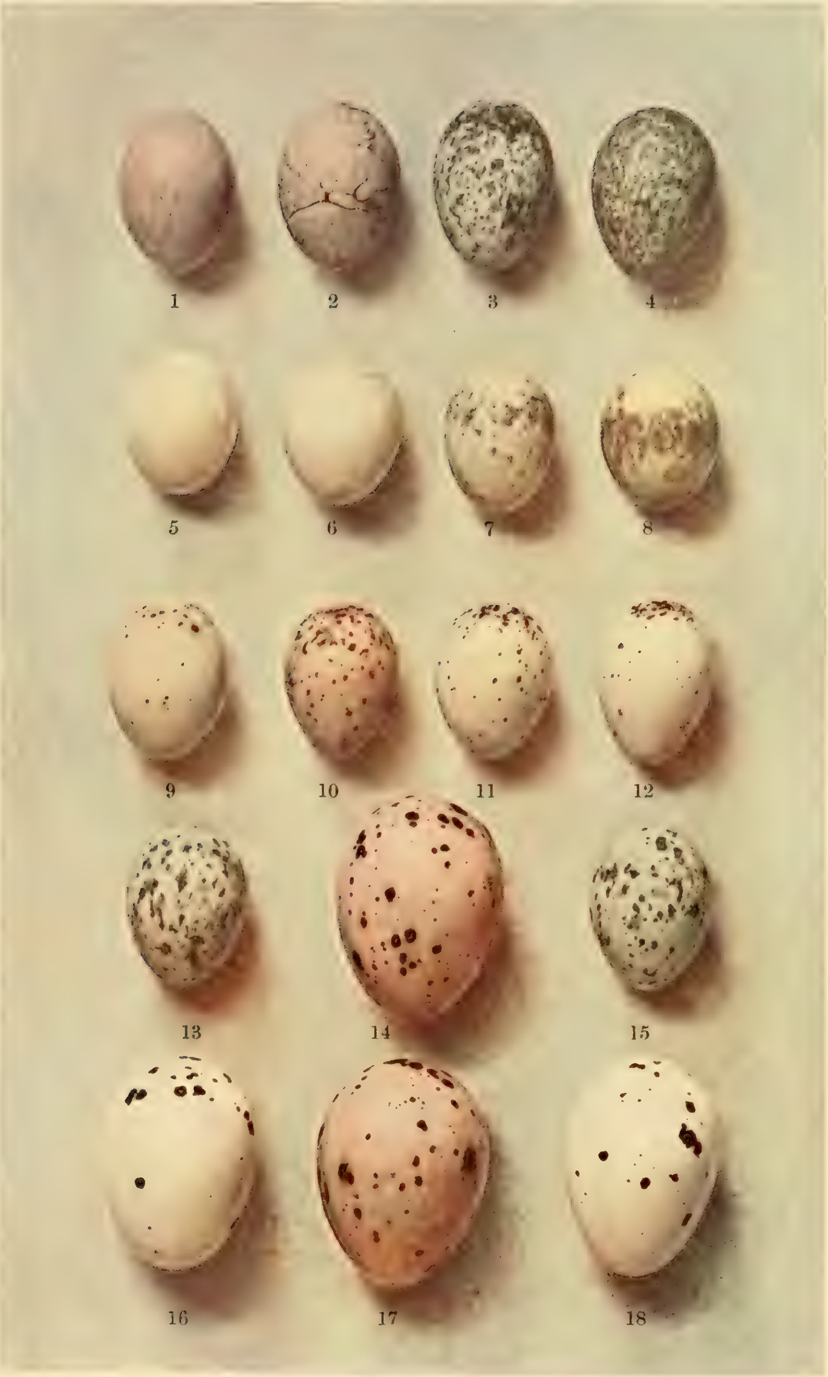
Terpsiphone paradisi Dresser, Man. Pal. B. p. 260.

The Paradise Flycatcher breeds in Afghanistan within the Eastern Palæarctic area, and in the warmer valleys of the Himalayas up to an elevation of nearly 6000 feet. It also nests on the plains of India. The breeding-season is in May, June, or July, according to locality. The small cup-shaped nest is neatly and compactly formed of moss, fine grass, rootlets, fine fibres, cobwebs, and occasionally a little horsehair. It is placed in the fork of a tree, between upright twigs, or on a branch. The eggs, usually four in number, do not vary much; they are pale pinkish white or salmon-pink in ground-colour, with brownish-red spots, and measure about 0·8 by 0·6 inch.

The two eggs figured are from the same clutch, and were taken near Rajpore, India, in July 1891.

(8) TERPSIPHONE PRINCEPS. Japanese Paradise Flycatcher. (Pl. X. figs. 11, 12.)

Terpsiphone princeps Dresser, Man. Pal. B. p. 261.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EGGS OF EASTERN PALÆARCTIC BIRDS

This bird breeds in Japan, and places its nest, which resembles that of *T. paradisi,* in the fork of a tree from eight to twelve feet above the ground. It is constructed of dry grass, strips of bark, and moss, interwoven with lichen or spiders' webs, and is lined with fine moss-roots. The eggs, four or five in number, are slightly larger and paler than those of *T. paradisi,* and the red dots are rather darker.

The two eggs figured are from a clutch of four, taken at Fuji, Japan, on the 4th of July. Those in my collection measure about 0·86 by 0·58 inch.

(9) PERICROCOTUS CINEREUS. Ashy Minivet. (Pl. X. figs. 13, 15.)

Pericrocotus cinereus Dresser, Man. Pal. B. p. 263.

This Minivet breeds in Eastern Siberia, Corea, and Japan; in the last country at about 2000 feet above sea-level. The nest is placed in a pear, maple, or other suitable tree, from ten to twenty feet above the ground, often quite at the end of a slender branch. Five or six eggs are laid from May to July.

The two eggs of this bird now figured were taken at Fuji, Japan, on the 12th of May, the clutch consisting of five eggs, which measure about 0·84 by 0·63 inch.

In conclusion, I may remark that all the eggs figured are in my own collection.

EXPLANATION OF PLATE X.

Eggs of

Figs. 1, 2. *Lusciniola aëdon,* p. 485.
„ 3, 4. *Motacilla madaraspatensis,* p. 486.
„ 5, 6. *Cyanoptila cyanomelæna,* p. 487.
„ 7, 8. *Lanius vittatus,* p. 488.
„ 9, 10. *Terpsiphone paradisi,* p. 488.
„ 11, 12. *Terpsiphone princeps,* p. 488.
„ 13, 15. *Pericrocotus cinereus,* p. 489.
„ 14, 17. *Oriolus indicus,* p. 487.
„ 16, 18. *Oriolus kundoo,* p. 486.

XXXVII.—*The Birds of the Island of Raasay.*

By Charles Collier, F.Z.S., M.B.O.U.

Although the avifauna of the Inner Hebrides has been most fully investigated by Mr. Harvie-Brown, my friend the late T. E. Buckley, R. Gray, and others, I think that it may not be out of place, and may be of some interest, to record my notes and observations made during a residence of nearly seven years on one of the group.

The island of Raasay is one of the most northerly of the Inner Hebrides, lying between the north-east side of Skye and the mainland of Ross; about ten miles in a bee-line from the latter, and from one to six miles from Skye. It is about fifteen miles long, with an average breadth of two and a half miles, the greatest height being 1456 feet. Taken as a whole, it is very well wooded (about one thousand acres of plantation and natural woodland), with numerous sheltered corries, small burns, and lochs. There is very little arable ground (about three hundred acres), which no doubt accounts for the scarcity of some species. The facts of the population being very small, and of the little interest taken by the island boys in nesting, give a fearlessness to many birds which I have never noticed elsewhere. Perhaps what struck me most, although a well-known fact, was the regularity with which the same birds came back year after year to breed in, or quite close to, their old nesting-sites—birds with such divergent habits as the Woodcock, Common Sandpiper, Ring-Ousel, Peregrine Falcon, Kestrel, and Gold-crest. I give the various instances under each bird's heading. In all I noticed one hundred and forty species, of which eighty-nine were breeding on the island. No doubt I overlooked many immigrants and possibly a few breeding birds; some migrants I feel sure about, but shall not mention, as they were not definitely identified. The large quantities of Ravens, Hooded Crows, and Buzzards which regularly appeared after stormy weather in September and remained until the following spring were no doubt attracted by the rabbits, many hundreds of the late litters dying during the winter. These and the hares probably also accounted for the presence of from one to three Golden Eagles: they were generally immature birds.

Geologically the island consists, roughly, of red sandstone on the west and limestone on the east, the coast-line on the latter side being very rugged, with fine cliffs and bold headlands. The climate is very mild, but wet, the average annual rainfall for seven years being 70 inches.

During the late spring, summer, and autumn of 1900 I was in South Africa, so made no notes at that period.

MISSEL-THRUSH. *Turdus viscivorus.*

Not a common bird, but a few pairs breed annually.

SONG-THRUSH. *Turdus musicus.*

Large numbers breed on the island, mostly by the seashore, their nests being placed on rocks or ledges where there are no suitable bushes or shrubs. One pair bred yearly on a ledge in a large cave. In the year 1899 there was a very large autumn migration passing over the island—by far the largest I have noticed; the birds were passing due north and south.

REDWING. *Turdus iliacus.*

In some years large numbers passed on their southern migration. There was a continual stream from October 20th to the 24th, 1899, passing day and night—seen by day and heard at night. Large flocks of Fieldfares were passing over at the same time. Very few remained for the winter, and in some years none were observed after the southern migration was over. Comparatively small numbers were seen on the northern migration.

FIELDFARE. *Turdus pilaris.*

With the exception of the autumn of 1899, no very large quantities were noticed. Occasional isolated flocks of from twenty to fifty birds arrived and remained for a few days all through the winter.

BLACKBIRD. *Turdus merula.*

Common on the south end of the island, where many pairs breed, but nothing like so numerous as the Song-Thrush.

Ring-Ousel. *Turdus torquatus.*

These birds arrived between the 10th and the 18th of April, and were quite common on the high ground, there being one or more nests by the side of every burn, besides many scattered along the rough heathery banks. One pair bred for three consecutive years in a bank within a few feet of an old nest. At the end of July and during August these birds to a great extent left the high moorlands, both old and young frequenting the large bracken-beds on the lower ground, some of which are only a few feet above the sea-level. The number of nests was about the same every year.

Wheatear. *Saxicola œnanthe.*

Appears in numbers from the 10th to the 12th of April and spreads all over the island. I have found some nests on the east side at an elevation of twelve hundred and fifty feet, and others only a few feet above high-water mark, one only two feet above. The nests are generally placed under stones.

Whinchat. *Pratincola rubetra.*

Very scarce: a few were seen in the early summer. One pair remained all through the summer of 1901. I never found the nest, but saw the young on June 23rd.

Stonechat. *Pratincola rubicola.*

Quite a common bird and resident; nearly every large sheltered corrie holds a pair. The young disappear in the autumn, but I have noticed no additional arrivals in the spring, the breeding birds being about the same in number every year.

Robin. *Erithacus rubecula.*

Scattered in the woods and round the crofts and shore, but not very numerous. There was a nest for several seasons in a small hollow in a beech-tree close to the house. I removed the nest after the young had flown, and the same site was used for four out of five years by a pair of Spotted Flycatchers.

Whitethroat. *Sylvia cinerea.*

Only a stray visitor. I noticed it on May 30th, 1896, also in June 1901 on three occasions, but do not think that a pair remained to breed.

REDSTART. *Ruticilla phœnicurus.*

Three pairs nested in the summer of 1896, and since then a few have bred every year, but I have never found more than three nests, although many more pairs occurred. Curiously enough, the site chosen was generally in a hole under a large stone on the ground; apparently there were much better sites available. The positions chosen seemed more suited to Wheatears than Redstarts*.

GOLDEN-CRESTED WREN. *Regulus cristatus.*

Fairly plentiful in the fir-woods on the south of the island. One pair bred for three years in the same spruce-tree, within two or three feet of the old nest. Greatly increased numbers were observed in the late autumn. On December 18th, 1899, there were between two and three hundred in some rough heathery banks on the outskirts of a wood, the most I ever saw there together. Apparently they had only just arrived; they were extremely tame, letting me walk to within a yard or two of them.

WILLOW-WREN. *Phylloscopus trochilus.*

One of the commonest migrants, and a great many remain to breed. In the beginning of June 1901 a pair built in a large fuchsia-bush six feet six inches from the ground, this being the only instance which I have come across of a nest in such a place. There were excellent sites in the banks, &c., close by, where there were several nests placed in ordinary situations.

SEDGE-WARBLER. *Acrocephalus phragmitis.*

A rare visitor. The only occasion on which I found the nest on the island, placed in some thick bushes by the side of a loch, was in June 1899.

HEDGE-SPARROW. *Accentor modularis.*

Scattered over most parts of the island. Resident.

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* [We have found the nest of this species among grass on the ground.—EDD.]

DIPPER. *Cinclus aquaticus.*

One or two pairs on every stream. Resident.

LONG-TAILED TIT. *Acredula rosea.*

Common and resident for the whole year. It nests in far higher situations than I have noticed elsewhere. Several nests were built in Scotch firs and against the trunks of lichen-covered oaks at heights varying from 15 to 35 feet from the ground. Large numbers of these birds, together with Blue Tits, Coal-Tits, and Gold-crests, congregate and hunt for food in the fir-woods during hard weather.

GREAT TITMOUSE. *Parus major.*

Uncommon; but a few pairs breed every year.

COAL-TITMOUSE. *Parus britannicus.*

The commonest of all the Titmice; large numbers nest in old stumps of trees, in walls, and even in holes in banks.

MARSH-TITMOUSE. *Parus palustris.*

This bird I have only occasionally observed during hard weather in the winter, generally in company with other Tits. It was never seen during the summer.

BLUE TITMOUSE. *Parus cæruleus.*

Quite common; many breed, but it is not so numerous as the Coal-Tit.

WREN. *Troglodytes parvulus.*

Resident, and scattered over the whole area from the highest points to the sea-shore.

PIED WAGTAIL. *Motacilla lugubris.*

Summer visitant, arriving in the early spring and remaining until the end of September. Sometimes I have noticed a stray bird during winter about the farm-buildings, but only, I think, on three occasions.

GREY WAGTAIL. *Motacilla melanope.*

A resident, but the majority leave in September or October, only a few remaining for the whole year. In the summer nearly every stream has its pair of birds, and one stream in 1899 had three pairs on it.

YELLOW WAGTAIL. *Motacilla raii.*

A summer visitant and rare. I have found only two pairs breeding; they came at the end of April or beginning of May, nidification taking place soon after their arrival. The young and old birds left again between the 10th and the middle of September.

MEADOW-PIPIT. *Anthus pratensis.*

Resident; distributed over the whole island.

TREE-PIPIT. *Anthus trivialis.*

Summer visitant, nests regularly at the edges of the woods. Not common.

ROCK-PIPIT. *Anthus obscurus.*

Plentiful all round the coast.

SPOTTED FLYCATCHER. *Muscicapa grisola.*

Regular visitant; the site used for four out of five years was that in which a pair of Robins had first brought off their brood of young. In the summer of 1901 I knew of five pairs nesting. They arrive late in May or in the beginning of June, and leave again by the end of August.

SWALLOW. *Hirundo rustica.*

Five or six pairs inhabited the ruins of Brochil Castle at the north end of the island. I constantly observed several flying about the cliffs on the east side, but I never saw a nest there.

HOUSE-MARTIN. *Chelidon urbica.*

A few were observed in the late spring of 1896, 1897, 1898, and 1901, but none remained to breed.

SAND-MARTIN. *Cotile riparia.*

Noticed every spring in small numbers, remaining from four to seven days. If there had been any suitable sand-banks I think that they would have bred.

TREE-CREEPER. *Certhia familiaris.*

Resident, and very numerous in a large fir-wood. A few individuals were also to be met with wherever there was any bush or natural woodland.

GOLDFINCH. *Carduelis elegans.*

Rare. On May 8th, 1897, I first saw a hen Goldfinch eating dandelion-seed on the lawn; she remained about the place for four days. A few days later I saw a pair; they subsequently nested in the garden, rearing four young. They all disappeared about the middle of September. The following year, 1898, a pair built their nest in a birch-tree, about three miles from the first site; we constantly saw the old birds and the young feeding on thistle-down and dandelion-seeds.

Since 1898 no more specimens have been identified.

GREENFINCH. *Ligurinus chloris.*

Rare, an occasional pair nesting in the shrubberies. It is more often seen during the winter.

During the winters of 1896, 1898, 1899, and 1901 a good many were observed associating with Yellowhammers, &c., about the corn-ricks.

HOUSE-SPARROW. *Passer domesticus.*

Very numerous. Resident.

TREE-SPARROW. *Passer montanus.*

Nests regularly in some large spruce- or Scotch fir-trees. Resident, but does not appear to be increasing in numbers.

CHAFFINCH. *Fringilla cœlebs.*

Very common. Resident. The birds apparently do not all nest, as I have frequently seen small flocks of from eight to twenty individuals together throughout the summer.

BRAMBLING. *Fringilla montifringilla.*

A rare visitor. During some hard frost and snow on February 10th and 11th, 1900, I saw seven or eight of these birds feeding along with some Chaffinches by corn-stacks.

LINNET. *Linota cannabina.*

About six pairs nest annually in a patch of old gorse some two acres in extent; this is the only spot where they are to be found. In the autumn they migrate.

LESSER REDPOLL. *Linota rufescens.*

Common, breeding in all the woods. Its numbers are greatly augmented during the winter, when small flocks may be seen in the birch-woods.

TWITE. *Linota flavirostris.*

Nests yearly, but in sparse numbers.

BULLFINCH. *Pyrrhula europæa.*

A few scattered pairs are found in the more wooded parts, where they breed regularly. This species is decreasing in numbers; about fifteen years ago it was very plentiful, as the keepers inform me.

CROSSBILL. *Loxia curvirostra.*

In the winter of 1896 I saw several flocks in a big fir-wood, and also among the birch-trees, but I did not find a nest until the 10th of May, 1898, when I saw the young, fully fledged, and shot an old and young bird for identification. In 1899 and 1901 there were, I know, two nests in the same wood, placed on the horizontal branches of large Scotch firs. In no other winter were such large flocks of these birds seen as in 1896.

CORN-BUNTING. *Emberiza miliaria.*

Extremely abundant during the nesting-season, a pair breeding close to nearly every small patch of cultivated ground. A few are resident. The late Mr. T. E. Buckley and I saw two pairs on January 23rd, 1899, and some could be seen on almost any day during the winter.

YELLOWHAMMER. *Emberiza citrinella.*

Resident, but not plentiful.

REED-BUNTING. *Emberiza schœniclus.*

Nesting in certain suitable situations. It has not been observed during the winter. Uncommon.

SNOW-BUNTING. *Plectrophenax nivalis.*

Small flocks come and go after snow-storms and hard weather all through the winter months.

STARLING. *Sturnus vulgaris.*

Not very plentiful during the summer. A large increase takes place during the late autumn, the birds resorting to a very thick young larch-plantation to roost.

CHOUGH. *Pyrrhocorax graculus.*

Very scarce. Five Choughs were on the rocks by the sea-shore to the west of the island on January 3rd, 1898. On January 5th of that year three Choughs were seen in the same locality: these were the only instances of their occurrence noticed. Afterwards I was informed that a very small colony breeds yearly in some precipitous cliffs a few miles away in the Isle of Skye. No doubt the birds seen were from this colony.

JACKDAW. *Corvus monedula.*

A few nest on the high cliffs on the east side, but are much harried by a pair of Peregrines. Greatly increased numbers are to be seen in the autumn and consort with flocks of Rooks.

CARRION-CROW. *Corvus corone.*

Two were trapped by a keeper in the autumn of 1897; I have no other record.

HOODED CROW. *Corvus cornix.*

Very common during the nesting-season. Quantities of migrants also arrive in September and remain throughout the winter. On one occasion two keepers and I saw forty-five of these birds in one flock.

ROOK. *Corvus frugilegus.*

A large rookery formerly existed on the island, but it was done away with between the years 1890 and 1902 on account of the harm the birds did by sucking the eggs of Grouse, &c. From 1895, old and young arrived about the end of June, and a colony of about two hundred remained through the winter, roosting in a very thick spruce-wood. If the weather remained fine for any length of time, they changed their sleeping-quarters to some bare rocks by the sea.

RAVEN. *Corvus corax.*

Three pairs nest annually in quite inaccessible places. Additional numbers arrive in September, roosting on some very high precipitous cliffs, where I have counted thirty-two on the wing at the same time.

SKYLARK. *Alauda arvensis.*

A few pairs are distributed over the island, but are not numerous.

SWIFT. *Cypselus apus.*

Every year in the late spring a few are seen, and again at the beginning of August for a day or two, but none have been known to breed.

NIGHTJAR. *Caprimulgus europæus.*

A sparse but annual visitor. A pair used to nest in the open space of a fir-wood quite close to the house every year. One of the birds was often to be seen late on a summer evening perched on a high garden-wall, which seemed a favourite position for the emission of its peculiar whirring note. On one occasion the bird continued its whirring for a second or two over five minutes without intermission; this was the greatest length of time so occupied to my knowledge.

CUCKOO. *Cuculus canorus.*

Very plentiful. During some summers it was more numerous than in any other part of the country that I have visited. The Meadow-Pipit's was the favourite nest in which to deposit its eggs.

BARN-OWL. *Strix flammea.*

An occasional visitor. I saw the first on January 29th, 1897, and others on December 19th, 1900, and January 12th, 1901; probably the latter was the bird observed on December 19th, as it was in the same locality.

LONG-EARED OWL. *Asio otus.*

Generally one brood is found every year, an old Hooded Crow's nest being the favourite site. I never noticed more than one pair.

SHORT-EARED OWL. *Asio brachyotus.*

Frequently flushed by Snipe- and Woodcock-shooters in the winter. It does not breed on the island at the present time, but from the keeper's account it used to do so regularly.

TAWNY OWL. *Syrnium aluco.*

In 1901 a pair took up their quarters in an old hollow tree. They reared three young.

HEN-HARRIER. *Circus cyaneus.*

I saw a single bird on October 18th, 1899, and again later in the same year. In 1901 three were observed. Formerly this was quite a common species, six pairs nesting on the island, but unfortunately they were all killed.

BUZZARD. *Buteo vulgaris.*

A pair used to nest annually in the cliffs on the east side of the island, and two pairs bred there in 1901. In the early autumn the migrants arrive, and a good many remain throughout the winter. On the evening of December 29th, 1899, eleven Buzzards were circling over a large pine-wood, their favourite roosting-quarters in rough stormy weather.

GOLDEN EAGLE. *Aquila chrysaëtus.*

From one to three birds were generally on our ground, both in winter and summer—immature specimens, as a rule. On January 8th, 1900, when returning from Woodcock-shooting, my friend Mr. C. H. Akroyd and I came upon two Golden Eagles gorging on the carcase of a dead sheep in a small corrie; three Buzzards and seven Ravens were settled on some rocks close by, waiting for their share. A very fine sight it was, when these twelve birds rose and circled round. In December 1896 a friend and I saw a mature Golden Eagle hunting over a hill-side. The bird (a hen, judging from the size) picked up a mountain-hare in her talons, when she was immediately mobbed by five Ravens. We watched the scene for about ten minutes; eventually the Eagle, when at a height of about 400 feet, dropped the hare, whereupon the Ravens at once left her and dived to the ground after it croaking. The fact may be interesting, as there are many disputes as to the carrying capabilities of this species. An immature Eagle which I caught in a hollow by a stream when gorged, and kept for several months, could easily take a dead rabbit to a perch from the ground; she usually dragged it up to a stone about nine inches from the ground, and then flapped with it to her perch.

WHITE-TAILED EAGLE. *Haliaëtus albicilla.*

An occasional visitor in autumn and winter. On September 22nd, when stalking, I saw an adult Sea-Eagle mobbed by eleven Hooded Crows; they compelled the Eagle to settle on the heather only about sixty paces from the spot where I was hiding. The Hoodies settled down as well, one or two occasionally rising and making false stoops at the Eagle's head; they so worried her that she rose, but only flew about fifty yards before again dropping into the heather. The baiting, for I can call it by no other word, again went on until the Eagle made up her mind for one final dash, and got over the edge of a cliff about two hundred yards away, upon which the Hoodies at once left her. With my Zeiss glasses I could see every movement; several times when the Crows approached too closely on the ground, the Eagle struck out with one foot, but they were far too wary to go within reach. I am sorry to say that in the autumn of 1899 an immature bird of this species was picked up dead with a rabbit-trap on its foot; it had been noticed for nearly a fortnight flying about, and died of starvation.

SPARROW-HAWK. *Accipiter nisus.*

Common. Nests annually.

GREENLAND FALCON. *Hierofalco candicans.*

On October 6th, 1896, a Greenland Falcon was crossing the moor. I hear that a short time afterwards a specimen was shot in the Isle of Skye—possibly the same individual. The bird which I saw was very tame, and passed within forty yards of me.

PEREGRINE FALCON. *Falco peregrinus.*

One pair nests regularly on the face of an absolutely impregnable cliff on the east coast of Raasay. It is quite a common species during the autumn and winter. I have been fortunate enough to witness many very interesting flights, but will only instance two—one to shew this Falcon's pertinacity, and the other its boldness and fearlessness of mankind:—On August 8th, 1901, a large Peregrine flew after an Arctic Tern; they ringed to a great height, the Falcon stooping twelve times. The Tern, apparently with little effort, avoided every stoop, and kept up its continuous scolding note the whole time.

On September 24th, 1898, when I was walking in line shooting, a hen Pheasant was put up from a bed of bracken and wheeled back over us; a small Peregrine which was passing at once flew after her, crossing about forty feet over our heads. The Pheasant only just got to cover in time, apparently tumbling more than flying into the thick bracken.

MERLIN. *Falco æsalon.*

One or two pairs take up their quarters every year on some part of the ground; they do not appear to have any favourite spot.

KESTREL. *Tinnunculus alaudarius.*

Plentiful. One pair nested in 1896, 1897, 1898, 1899, and 1901, in the same hole in a cliff. I am not sure what happened in the summer of 1900, as I was away.

CORMORANT. *Phalacrocorax carbo.*

This species is nothing like so numerous as the Shag. On returning to their roosting-place, Cormorants can generally be distinguished from Shags by their flying at a much greater height: they will also cut off corners, by crossing necks of land, a thing which a Shag is loth to do.

SHAG. *Phalacrocorax graculus.*

These birds frequent the shore in large numbers, a considerable colony nesting in a cave and on the ledges outside it. The same cave is used as a roosting-place during the winter.

GANNET. *Sula bassana.*

Fairly common all through the summer, while an increase in numbers occurs during the autumn. The herring-supply seems to regulate the quantity arriving, as in good years they are plentiful and in bad seasons scarce. Immature specimens are rarely observed.

HERON. *Ardea cinerea.*

A heronry of small extent existed for many years at the south of the island in some very tall fir-trees, but unfortunately the birds were driven away. None were allowed to be killed after 1894, with the good result that in the early spring of 1896 two pairs nested in some low birch-trees on the north of the property, about nine miles from the old station. In 1898 these had increased to four pairs, one nest being actually placed on the ground at the side of a small islet in a fresh-water loch. Two more nests were added in 1901 about half a mile away, also in very small birch-bushes, nine feet from the ground.

WHITE-FRONTED GOOSE. *Anser albifrons.*

The first which I observed were seven in a flock on a grassy swamp, October 6th, 1896. On October 4th, 1898, eleven were seen at the same place. In the beginning of October 1901 eight or nine were again seen. They apparently only frequented this one locality, and merely remained for a day or two.

BRENT-GOOSE. *Bernicla brenta.*

Small numbers are seen on the coast nearly every autumn about the middle of October; they only remain for a short time.

BARNACLE-GOOSE. *Bernicla leucopsis.*

A few of these Geese are seen occasionally in flocks of from six to twelve all through the winter; they resort to a small island, feeding on the grass. I constantly saw them in 1896, 1897, and 1898, but none in 1899 or 1901. On October 16th, 1896, I observed a large flock of about a hundred Geese going south, flying in a V-shaped formation, but at too great a height to be identified. Their gaggling drew my attention to them, or they would never have been noticed. On several other occasions I have seen Geese going both south and north, but too far off to make out the species.

BEWICK'S SWAN. *Cygnus bewicki.*

On February 9th, 1900, five mature birds were in a sheltered sea bay; the weather was very stormy, with frost and snow. These were the only examples seen.

COMMON SHELD-DUCK. *Tadorna cornuta.*

Does not breed with us. An occasional specimen is seen during the summer.

WIGEON. *Mareca penelope.*

In January 1900 large numbers were on the coast; as a rule they are scarce, there being no good feeding-grounds for them.

WILD DUCK. *Anas boscas.*

Nearly every loch, both large and small, holds a breeding pair. During the winter many more arrive, feeding at the mouths of the burns.

COMMON TEAL. *Querquedula crecca.*

Often seen in small numbers during the winter.

For five consecutive years a pair bred on some tussocky lumps of grass in a shallow weedy loch.

SHOVELER. *Spatula clypeata.*

A single straggler, a female, remained on a fresh-water loch for about two weeks in 1902. She was first seen on February 4th. I noticed her with my glasses in company with five Mallards.

TUFTED DUCK. *Fuligula cristata.*

Not uncommon during the winter.

SCAUP. *Fuligula marila.*

On December 12th, 1897, four Scaup-Ducks were seen swimming towards a mud-flat. On January 5th, 1898, five birds were seen at the same place. I also occasionally saw them at sea when coasting round the island in a launch.

POCHARD. *Fuligula ferina.*

From time to time an individual is seen (and sometimes shot) in winter on the lower fresh-water lochs.

GOLDEN-EYE. *Clangula glaucion.*

Arrives during the first week in October and remains all the winter, a few birds generally haunting every sheltered sea bay.

Sometimes, but rarely, they go to the fresh-water lochs. It is extremely amusing to stalk them, and to fire a shot as they rise from the water. On one occasion three birds were on a loch, and although I purposely avoided hitting them, at the flash and report of the gun all three birds fell into the water as if killed, diving at once for a long distance. If swimming, they will dive at the flash, their sight is so keen.

LONG-TAILED DUCK. *Harelda glacialis.*

Fairly numerous on the coast during the winter, generally some distance out at sea.

EIDER DUCK. *Somateria mollissima.*

I think that the numbers increase every year. A pair bred in 1897, and had been sitting for some time on June 12th, when the nest was found. Three pairs bred in June 1899. The nests were placed in very exposed situations, among short heather and stones. Unluckily, the Greater Black-backed Gulls stole all the eggs or swallowed the young immediately after they were hatched.

COMMON SCOTER. *Œdemia nigra.*

A regular winter visitor, arriving in small flocks.

GOOSANDER. *Mergus merganser.*

Rare, but a few are seen nearly every winter. One was shot accidentally on January 5th, 1898, on a fresh-water loch close to the sea.

RED-BREASTED MERGANSER. *Mergus serrator.*

Very common, nesting in numbers. In June 1899 there were eight nests in a space of two hundred yards, and four on a rocky islet covered with rough heather, about forty yards long by twenty broad, besides dozens along the coast-line. This bird was also breeding on two fresh-water lochs. The largest clutch of eggs seen was sixteen, but from nine to eleven seems to be the usual number. On July 7th, 1901, I saw a Greater Black-backed Gull worry a small flotilla of newly-hatched Mergansers until they were utterly exhausted and could dive no more, when two were rapidly picked up off the sea and swallowed. *Larus marinus* causes much havoc among the young of this species. The nests are usually safe, as they are so well and carefully hidden. A pair used the same breeding-place for three years in succession, and they invariably, if undisturbed, chose a site within a few yards of the previous year's nest.

Ring-Dove. *Columba palumbus.*

Common in the woods; about the same number breed every year. A flock of from sixty to eighty remains for the whole winter; there is no increase of numbers during that season. There is not enough arable ground to support many.

Rock-Dove. *Columba livia.*

Quantities inhabit the small caves on the coast.

Pheasant. *Phasianus colchicus.*

Originally imported, and in a good season does well. Pheasants are extremely stupid in certain lights; they constantly try to settle on the sea when it is smooth, with a slight swell, mistaking the shadow of the swell for a bank, and consequently get drowned unless picked up by a boat.

Partridge. *Perdix cinerea.*

Partridges have been imported and a few have bred with us, but they do not thrive, and gradually disappear. Before leaving the island they wander to the high ground; the last covey was seen on the moor, six miles from its usual haunt, and this was the last heard of it.

Red Grouse. *Lagopus scoticus.*

The Grouse of Raasay, which are fairly numerous, are much darker in plumage than the mainland birds and of a greater average weight.

Black Grouse. *Tetrao tetrix.*

Decreasing in numbers.

Water-Rail. *Rallus aquaticus.*

Rare, with the exception of the winter of 1899, when numbers were seen when we were Snipe-shooting, six being shot by my friends, who did not know the bird. It never remains to breed.

CORN-CRAKE. *Crex pratensis.*

Arrives in considerable numbers from the 21st to the 26th of May: every small field has its pair, and even on the moor and sea-shore there are scattered couples. They leave very early, from the 7th to the 15th of August. On three occasions only have I seen a Land-Rail after the 20th of August, and in each case it was flushed out of a bed of bracken.

MOORHEN. *Gallinula chloropus.*

Two pairs nest on a sheltered loch every year, but the numbers never increase. About October 15th to 25th they migrate, and none are seen during the winter.

COOT. *Fulica atra.*

Sparingly seen during the autumn and winter; it does not breed with us, although a few miles away, in Skye, it does so in some suitable localities.

GOLDEN PLOVER. *Charadrius pluvialis.*

Resident, a few nests being scattered over the moorland. After gales and snow a large increase takes place; I have seen flocks of between two and three hundred birds together on the shore during exceptionally hard weather.

RINGED PLOVER. *Ægialitis hiaticola.*

This charming little bird nests on the shore wherever there is any shingle.

LAPWING. *Vanellus vulgaris.*

From twelve to fifteen pairs breed on one part of the ground and confine themselves to it, although thousands of acres of land appear equally well adapted for their requirements. About the same number return every year, but they do not increase, although they are not molested in any way.

OYSTER-CATCHER. *Hæmatopus ostralegus.*

Scattered at more or less regular intervals all round the coast-line; they return year after year to nest in the same spots. For five successive years one place was occupied by a pair, and woe to another Oyster-catcher or Gull which ventured too close to their territory. The eggs vary from three to four, the former being the usual number.

WOODCOCK. *Scolopax rusticula.*

This island is one of the most favoured spots for Woodcock, if not the most favoured of all, in Great Britain or Ireland. The mild climate, coupled with the large number of springs, feeding-places, and excellent cover, no doubt accounts for the quantity of immigrants which arrive about the first week in November. They breed here to a certain extent; there are, perhaps, from twenty to twenty-five nests a year. I found one in the spring of 1898 with four eggs: three were hatched off, the fourth addled. The following spring a nest was made only nine inches from the previous year's site, again with the result of one bad and three fertile eggs. In 1901 a nest was found only two feet away from the old place; this time all four eggs were good. The home-bred birds leave their breeding-haunts between the 20th and the end of July and frequent the bracken-beds at a much higher elevation, remaining there until about the 10th of September, when they migrate. The autumn immigrants begin to arrive from November 3rd to 5th, and at first scatter all over the open ground. As shewing the numbers that arrive, nearly nine hundred were killed in the winter of 1894–95 and four hundred and ninety-six in 1901–02. The severe spells of frost in the winters of 1894 and 1895 caused great havoc amongst them, no less than eleven being picked up dead by one frozen spring. On at least twelve occasions I have watched the old birds carrying their young to the feeding-grounds. For some years I weighed every Woodcock shot, the two heaviest being 16½ and 16¼ oz. respectively; but these were exceptional weights, the average working out at 12¼ oz.; this is a big average, but is accounted for by the exceptionally good feeding. The latest nest was on the 20th of June, with four fresh eggs, which were all hatched.

COMMON SNIPE. *Gallinago cœlestis.*

Breeds in all places suited to its habits. It seems occasionally to have two nests a year, as I have found fresh eggs in the middle of June and young in down on the 12th of August.

In the breeding-season I have seen the birds, after wheeling and drumming for some time in the air, descend almost perpendicularly and settle on the top of a birch-tree or a post, at the same time emitting a hoarse double note four or five times in succession. This peculiarity I noticed more especially with one pair of birds.

JACK SNIPE. *Limnocryptes gallinula.*

A few are found in two or three favourite boggy places. They manage to keep in good condition in the hardest weather, when the Common Snipes are quite thin. An individual has remained as late as the 3rd of June.

DUNLIN. *Tringa alpina.*

Breeds sparingly in marshy places on the open moorland from about the 20th to the 25th of May.

PURPLE SANDPIPER. *Tringa striata.*

Common on the rocky parts of the coast during the winter and spring. On January 24th, 1899, there were about fifty running about the rocks at the water-line, the greatest number that I have ever seen together.

KNOT. *Tringa canutus.*

Occurs sparsely during the winter. One bird in immature plumage was shot in January 1899 for purposes of identification.

COMMON SANDPIPER. *Tringoides hypoleucus.*

Extremely abundant, arriving at the end of April or the beginning of May, and breeding on the coast-line and on all the fresh-water lochs. The highest lochs, where four pairs breed, are above 1200 feet. I have found the nests at some distance from the water (150 yards) and a considerable height above it (from 40 to 100 feet). The birds return year after year to the same places. One pair nested four years out of five in a very unusual site, namely, in a rabbit-hole which had been tunnelled through the apex of a small bank; the length of the hole was 12 or 13 inches. In the fifth year the nest was in the open, only two feet away from the same hole. The parents were so used to our passing that they became very tame, the sitting bird taking absolutely no notice when we peered into the hole to look at her on her nest. About the same number of pairs bred annually, with the exception of 1899, when there was only about one-third of the usual quantity.

REDSHANK. *Totanus calidris.*

Distributed along the whole coast; but, so far as I have noticed, only one pair breeds here.

GREENSHANK. *Totanus canescens.*

Rare. Occasionally seen in the autumn.

WHIMBREL. *Numenius phæopus.*

A few are occasionally noticed from the beginning to the end of May. In 1901 several were seen at the end of May and during the first week of June.

CURLEW. *Numenius arquata.*

Breeds on the lower ground, both on the south and the west of the island.

ARCTIC TERN. *Sterna macrura.*

Very common, several small colonies nesting on rocky islets. About the same number breed every year, notwithstanding the fact that their eggs are taken regularly by the crofters. This species is much more plentiful than the Common Tern.

COMMON TERN. *Sterna fluviatilis.*

A small colony of from six to eight pairs breed on an isolated rock; these, with an occasional pair nesting in company with the Arctic Terns, are the only instances that I have observed.

KITTIWAKE. *Rissa tridactyla.*

About six nests yearly, in a cliff on the east of the island.

HERRING-GULL. *Larus argentatus.*

Some hundreds breed on the west coast, where a few pairs of Lesser Black-backed Gulls nest with them.

LESSER BLACK-BACKED GULL. *Larus fuscus.*

Numbers breed about half a mile away from the aforesaid colony of Herring-Gulls, but none remain during the winter. In June 1897 I took two eggs of a pale blue colour, which are now, I believe, at Cambridge.

COMMON GULL. *Larus canus.*

Scattered nests are found all round the coast, but in small numbers.

GREATER BLACK-BACKED GULL. *Larus marinus.*

Only one nesting-place on the island. This species makes great havoc amongst the eggs and young of other birds. Many immature examples are resident during the whole year.

BLACK-HEADED GULL. *Larus ridibundus.*

Fairly common in early summer, but does not breed here.

RICHARDSON'S SKUA. *Stercorarius crepidatus.*

Often seen in the autumn chasing the Herring and Common Gulls to make them disgorge their prey.

STORM-PETREL. *Procellaria pelagica.*

Common after heavy gales from the north, but does not breed here.

MANX SHEARWATER. *Puffinus anglorum.*

Observed generally in both spring and summer, but not a resident.

GREAT NORTHERN DIVER. *Colymbus glacialis.*

Immature birds are very common during the winter months, and on a foggy day or night their wild complaining cries may be heard at a great distance. Mature and immature birds again appear in the late spring and assemble in small numbers, four to eight together, May 15th being the latest date on which I have noticed them; they collect apparently before migrating to their breeding-haunts. None are seen again until the middle of August.

BLACK-THROATED DIVER. *Colymbus arcticus.*

I have on several occasions seen this bird, as well as the

Red-throated Diver, on a fresh-water loch, and had great hopes of their breeding with us, but they never did so. They are often seen on the sea as well.

RED-THROATED DIVER. *Colymbus septentrionalis.*

This and the preceding species are about equally numerous. The male bird is very inquisitive in the early summer, and likes to investigate unusual sights. I have lain in the heather by the side of a loch and waved a rod to puzzle him, when he dived and came closer and closer, even raising himself out of the water to try and get a better view of the strange object. He even approached within twenty yards of me, the female in the meantime remaining from fifty to sixty yards away; when his curiosity was satisfied, he dived and rejoined his mate.

LITTLE GREBE. *Tachybaptes fluviatilis.*

Two pairs nest yearly, each on a small sedge-covered loch.

RAZORBILL. *Alca torda.*

Thousands pass southward during the late summer and autumn, and again northward in the spring; they do not nest with us.

COMMON GUILLEMOT. *Lomvia troile.*

The same may be said of this bird as of the preceding, but it is seen in greater numbers.

BLACK GUILLEMOT. *Uria grylle.*

Common, breeding in many of the small caves; a few even nest in a large cave inhabited by a colony of Shags.

LITTLE AUK. *Mergulus alle.*

A few examples have been found washed up dead after a heavy northerly gale. In December 1899 two were caught alive, but much exhausted, on the shore of a small bay facing the Minch.

PUFFIN. *Fratercula arctica.*

Large quantities of these birds pass on their way to and from their breeding-stations.

XXXVIII.—*A Story about the Giant Goatsucker of Brazil* (Nyctibius jamaicensis). By Dr. Emil A. Goeldi, H.M.B.O.U., Director of the Goeldi Museum, Pará.

My attention was first called many years ago to the fact that the "Urutáu" (or Giant Goatsucker) of Brazil was an object of legendary interest to the country-people, as was likely to be the case with such a large nocturnal bird. I have already noticed traces of such legends in Southern Brazil*, and from 1894 to the present time I have frequently met with further instances of the same tendency.

Soon after my arrival at the mouth of the Amazon I happened to hear one of these legends, which seems to me to be of sufficient interest to be noticed briefly from a scientific standpoint. It is not my habit to reject such stories as utterly unworthy of attention; on the contrary, having learned from previous experience that there is almost always a germ of truth in them, I have thought it worth while to investigate the facts which may be supposed to have given rise to such notions.

The common people think that the Urutáu *"traça o caminho do sol,"*—that is, "marks out the path of the sun." I can best help the reader to understand the meaning of this phrase by the accompanying sketches, which I have drawn especially for this purpose.

The first series of drawings (text-fig. 11, p. 514) illustrates the popular idea of the different attitudes assumed by the bird during the hours of daylight.

The first figure (on the right) represents the Goatsucker perched on the end of a dry bough (of which it seems to form a prolongation) about sunrise. It will be seen that it stands facing the eastern sun. The second figure represents the same bird at mid-day, when it appears in an almost vertical position with its gaze fixed on the sun in the zenith right over its head. The third figure (on the left) shews the bird as it is supposed to sit about the hour of

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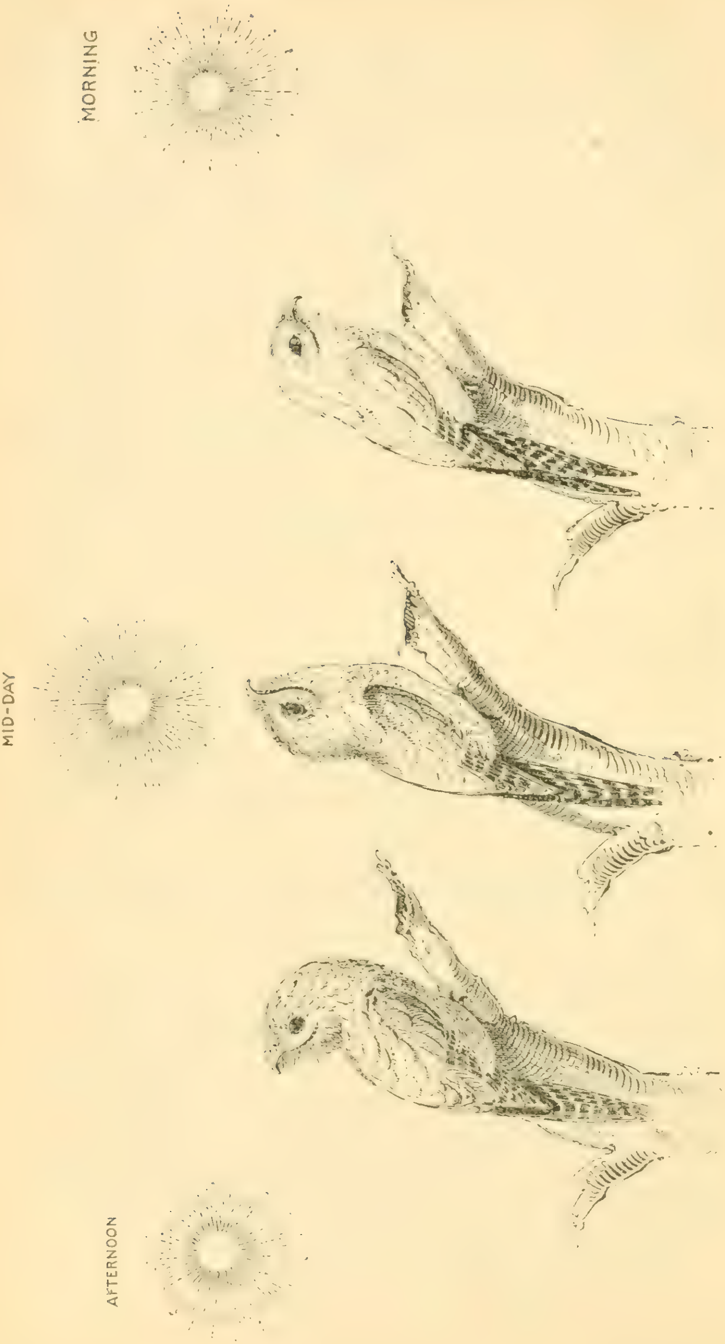
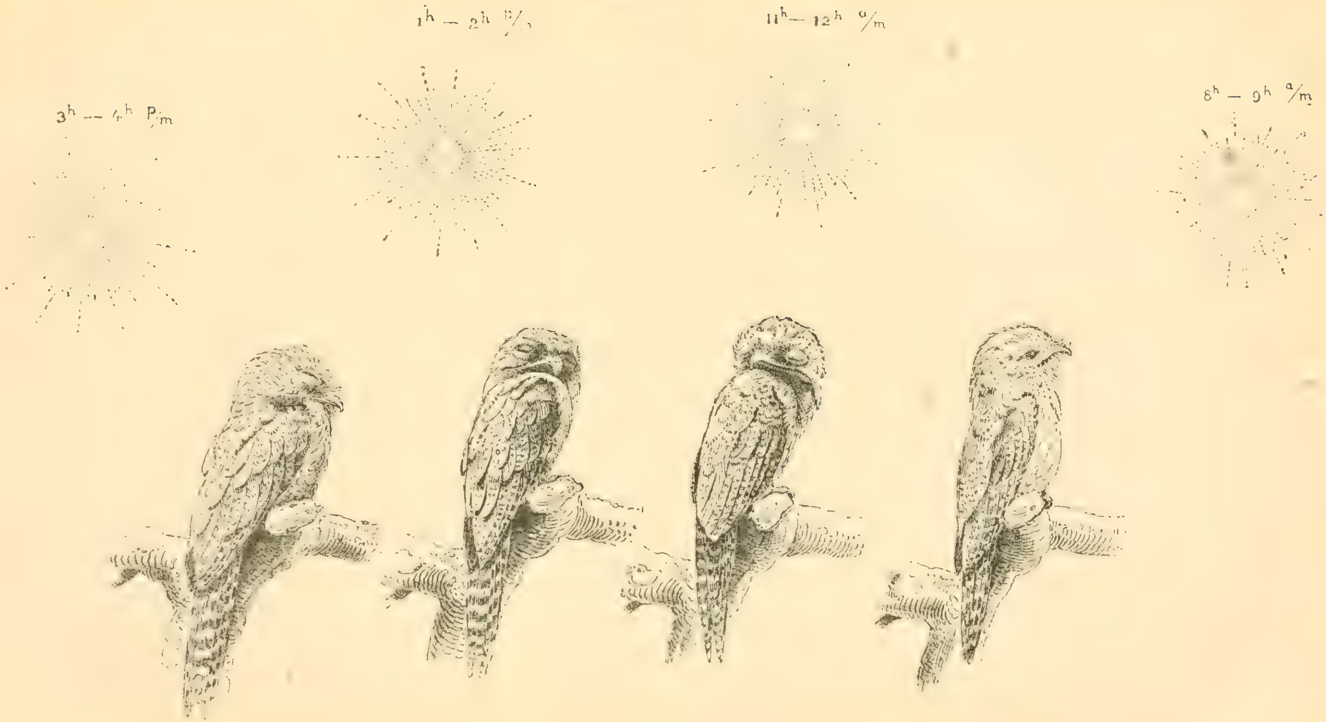
* See the author's 'Aves do Brazil,' i. p. 199 (1894).

Text-fig. 11.


MORNING
MID-DAY
AFTERNOON

What the Giant Goatsucker is supposed to do.

Text-fig. 12.


3h — 4h p/m
1h — 2h p/m
11h— 12h a/m
8h — 9h a/m

What the Giant Goatsucker actually does.
(From photographs taken at intervals of 2 hours.)

sunset, with its head turned to the west, having by that time described half a circle with its beak from east to west. During the twelve hours of daylight its body has remained in nearly the same position.

In order to ascertain whether there was any real basis for the popular notion on this subject, I made careful observations on a fine living specimen from the Island of Marajó, which had been presented to our Zoological Gardens in August 1898. I placed the bird, with a loose string tied to its foot, on a large branch exposed to the full rays of the sun, so that it could take the exact attitude that it would in a wild state under the same circumstances. This was done on a low tree in the middle of an open place in our Botanical Garden. I resolved to photograph the bird at intervals of two hours during the day, so as to obtain a series of pictures giving a precise idea of the bird's movements. From the photographs thus obtained I have selected four which best shew the relative positions of the head in life, and have had them copied by our artist.

These are given in the second series (text-fig. 12, p. 515), nothing having been added to the originals except the sun in its relative position, for the double purpose of aiding the reader to realize the bird's situation in each successive phase and of facilitating comparison with the first series of figures.

The first photograph, taken between 8 and 9 o'clock in the morning, is reproduced in the figure on the extreme right. The bird is seen wide awake, with its eyes open, and not yet shewing any sign of avoiding the direct rays of the morning sun.

The second figure, photographed between 11 and 12 o'clock, represents the Goatsucker in an essentially different position. The sun is almost directly over its head, and has evidently had the effect of making the bird turn its head away at a right angle, its body remaining in the original position. Its eyes are closed, thus shewing its desire to avoid the already unpleasant sensation of the noon-day glare.

In the third figure is shown the result of the photograph taken between 1 and 2 o'clock in the afternoon. The sun already strikes the bird a little behind, and its head shews the same tendency to assume a position diametrically opposite to the direction of the sun, having turned back about 45° towards the original position. The eyes are closed as in the preceding case.

The fourth figure represents the *Nyctibius* as photographed between 3 and 4 o'clock in the afternoon. The sun is now striking it more directly from behind. The head has resumed the original direction, but, when compared with the first figure, shews, by its downward pose, that the strong afternoon sunlight is still felt to be unpleasant. The eyes are closed, though perhaps not so much as in the two preceding figures.

Now let us ask, what are the results of this investigation? Is the popular notion confirmed or refuted? The facts are certainly contrary to the popular idea, as might have been expected from numerous analogies among other nocturnal birds and mammals. It is true that in the morning the *Nyctibius* is still wide awake, and seems to feel no discomfort, but rather pleasure, from the early sunlight. It is easy to understand that a moderate amount of light and heat would feel agreeable after the cold and damp of the latter part of the night, especially under an equatorial sky. This is a law to which all the higher vertebrates, both mammals and birds, are subject, not excepting those that are purely nocturnal. A certain degree of activity is to be noticed in the early morning and late in the afternoon among a large number of nocturnal representatives of the two classes above mentioned.

The Nacunda (*Podager nacunda*), a medium-sized Goatsucker, which is extremely common along the rivers of the Island of Marajó, and is seen in small flocks at certain times of the year flying over the city of Pará, can be observed in its majestic aërial evolutions as early as 4 o'clock in the afternoon, a fact quite sufficient to surprise a man otherwise familiar with the habits of bird-life.

In Southern Brazil another very common Goatsucker

(*Nyctidromus albicollis*), which has the habit of retiring during the day to thick patches of under-brush, is always sufficiently on its guard not to be caught napping, and escapes soon enough to shew that it has discovered an intruder before it is discovered itself. The surprising activity manifested by the different species of the small and very handsome Owls of the genus *Glaucidium* during the whole day is also perfectly familiar to students of Brazilian ornithology.

Not a few species of Bats in South America, especially of the wood-loving kind, are to be seen in full flight both late in the morning and some hours before sunset. The diminutive and characteristic Bat of the coast-rivers of Amazonia and Guiana, the exquisite *Rhynchonycteris naso*, recognisable at once by its protruding nose and of eminently gregarious nature, always surprises me by its vigilance and agility even at full mid-day.

The examples which I have quoted serve no other purpose than to shew that the wakefulness of the Goatsucker in the early morning is perfectly analogous to what we often see among other nocturnal creatures.

The harmony between the first figure of each of the two series represents, therefore, the grain of truth in the popular notion. But the reader will see at a glance by comparison of the remaining figures of the two series, as well as from my explanations in the text, that, from that point onwards, the real facts and the popular idea have nothing in common; on the contrary, the facts are diametrically opposed to the fanciful legend of the country-people. Leniency towards folk-lore, of course, cannot go so far as to close our eyes to the fact that what the people imagine they see in the case of the Urutáu would amount to a complete misunderstanding of the character and habits of a typical nocturnal bird, and would give a false notion of them.

XXXIX.—*Field-notes on Birds obtained or observed at Bloemfontein, O.R.C., and at Ingogo, Natal, in* 1901 *and* 1902.

By Major S. R. Clarke, F.Z.S., M.B.O.U.

The birds mentioned in the following list were obtained or observed by me at Bloemfontein, in the Orange-River Colony, and at Ingogo, in Natal, in 1901 and 1902. I was at Bloemfontein from April to December 1901—that is, through the whole of the winter and the first two summer months of that year—and at Ingogo, in Natal, from December 1901 to June 1902, being the latter half of the summer and the first two months of the winter.

Ingogo is on the railway about fourteen miles north of Newcastle, and some 4000 feet above the sea-level. Some of the surrounding hills reach almost 7000 feet in altitude.

Eighty-five of the species mentioned were observed only at Bloemfontein and forty-six only at Ingogo, while forty-four were found in both these places.

I have included under each locality the country that could be covered in a day's ride; this brings Volksrust under Ingogo and the Modder Bush under Bloemfontein. The construction of large dams, the irrigation of arable plots, and the planting of shelter-belts and orchards have probably added to the avifauna of Bloemfontein a variety of species which it did not originally possess. Owing to my spare time at Ingogo being limited, I fear that the list of birds found there is very incomplete.

The numbers in brackets following the names refer to the index-numbers in the first volume of Captain G. E. Shelley's 'Birds of Africa.' I take this opportunity of expressing to Captain Shelley my most grateful thanks for his kindness in assisting me to identify my specimens.

1. Nectarinia famosa. (7.)

Nectarinia famosa Stark, Fauna of S. A., Birds, i. p. 276.

Ingogo. This is a common bird; it frequents the flowers on the open grass-slopes of the mountains round Ingogo.

2. Zosterops pallida. (98.)

Bloemfontein. Local. Very common on one farm, but not observed elsewhere. Legs brownish; bill dark horn-coloured; iris yellowish hazel.

3. PARUS AFER. (124.)

Bloemfontein. Met with in pairs on three different farms, but apparently not abundant. The specimens appear to belong to the form called *Parus intermedius* (Shelley, B. Afr. ii. p. 242).

4. ÆGITHALUS CAPENSIS. (127.)

Bloemfontein. Seen in small parties on two or three occasions. Bill dark horn-coloured; feet blue-grey; iris black.

5. PARISOMA SUBCÆRULEUM. (134.)

Bloemfontein. Abundant in the Modder Bush, but I saw it nowhere else. It sings prettily and constantly. Bill and legs black; iris very light sea-green.

6. MOTACILLA CAPENSIS. (145.)

Bloemfontein. Common and very tame. Iris dark brown; bill and legs black.

7. ANTHUS RUFULUS. (165.)

Bloemfontein. Iris brown; legs dusky flesh-coloured; bill horn-coloured, shading to flesh-coloured at the base of the lower mandible. Abundant. Met with singly or in small parties.

8. ANTHUS VAALENSIS.

Anthus vaalensis Shelley, B. Afr. ii. p. 311.

Bloemfontein. Iris brown; feet dusky flesh-coloured; bill horn-coloured, paler below. Abundant, but generally met with singly.

9. MACRONYX CAPENSIS. (171.)

At Bloemfontein this species was uncommon, I doubt whether I saw more than six specimens. At Ingogo it was extremely abundant.

10. CERTHILAUDA ALBOFASCIATA. (177.)

Certhilauda albofasciata Shelley, B. Afr. iii. p. 22.

Very common on the veldt round Bloemfontein, but seldom seen on the kopjes. I found half-grown young in April and May, and several nests with eggs in August and again in October, so that it probably rears several broods in the year. The young when half-grown leave the nest and run after their parents; the bill at that stage is very small, and shews no sign of its future development.

The nests of this species are small, and are placed among the grass on the level ground. The eggs are two or three in number; they are speckled with buff and grey all over, but most thickly near the larger end, where the spots form a zone.

11. CERTHILAUDA SEMITORQUATA. (180.)

Certhilauda semitorquata Shelley, B. Afr. iii. p. 25.

Bloemfontein and Ingogo. This bird is found on the tops of the kopjes, generally in pairs. The note is a plaintive whistle. I took a nest and two eggs on Oct. 6th. The nest was placed in a tuft of grass between stones on the top of a kopje. The eggs were stone-coloured, faintly but profusely marked with blotches of very light brown and pale grey.

12. MIRAFRA RUFIPILEA. (195.)

Bloemfontein. Bill horn-coloured above, fleshy below; legs fleshy; iris bright hazel-brown. Common on the veldt, especially in the longer grass. It rises some twenty feet into the air with a curious rattle of the wings; it then extends them and descends slowly with a shrill whistle. This bird sometimes conceals itself in the grass, and it is very difficult on such occasions to flush it again.

13. MIRAFRA AFRICANA. (206.)

Bloemfontein. Iris hazel-brown; legs flesh-coloured; bill—upper mandible horn-coloured, lower flesh-coloured. This Lark is very loth to fly, and generally runs when chased. In winter the few seen were generally single specimens.

14. PYRRHULAUDA AUSTRALIS. (229.)

Bloemfontein. Male: iris crimson; bill whitish grey. On one occasion only I saw about twenty of these birds in a flock on the veldt, and obtained a single specimen.

15. PYRRHULAUDA VERTICALIS. (232.)

Bloemfontein. Iris bright hazel-brown; bill greyish white;

legs pale flesh-coloured. This bird was common in large flocks on the veldt in winter; there were still large flocks about in October.

16. CALENDULA CRASSIROSTRIS. (223.)

Bloemfontein. Iris brown; feet dull flesh-coloured; bill horn-coloured above, pinkish below. This bird was a frequent visitor to our horse-lines.

17. TEPHROCORYS CINEREA. (185.)

Bloemfontein. This was the commonest Lark near Bloemfontein, and resorted to the burnt ground or the roadsides. It is often killed by striking the telegraph-wires; one day eighteen were found lying dead close together under them. Early in October I found a nest with two eggs in it on the bare ground. A little heap of dry clay-chips had been collected by the old birds, and the centre of it was hollowed out and lined.

18. FRINGILLARIA CAPENSIS. (244.)

Bloemfontein. Common among the kopjes. I found a nest with young in it placed on the ground among some stones.

19. FRINGILLARIA TAHAPISI. (246.)

Bloemfontein. Iris dark brown; legs pale brownish flesh-coloured; bill—upper mandible horn-coloured in some specimens (probably male), lower mandible yellow, in others (probably female) lower mandible dull flesh-coloured. Very local at Bloemfontein; I found it only on one kopje, where, however, it was abundant. It was quite common at Ingogo.

20. FRINGILLARIA IMPETUANI. (245.)

Bloemfontein. The only specimen of this bird seen was on the outskirts of the Modder Bush.

21. SERINUS CANICOLLIS. (280.)

Ingogo.

22. SERINUS MARSHALLI.

Serinus marshalli Shelley, B. Afr. iii. p. 199.

Bloemfontein. Iris brown; legs dark horn-coloured; bill horn-coloured above, shading to flesh-coloured below. Very common.

23. Serinus angolensis. (302.)

Bloemfontein. Iris dark brown; beak and legs horn-coloured. Fairly common. Habits similar to those of the last-named.

24. Passer arcuatus. (269.)

Bloemfontein and Ingogo.

25. Amadina erythrocephala. (361.)

Seen on two occasions in the town of Bloemfontein, but not observed elsewhere.

26. Vidua principalis. (312.)

Very common at Ingogo and occasionally seen at Bloemfontein. The young of the year have a white fleshy border to the gape of the bill.

27. Coliopasser procne. (317.)

Common in damp places at Bloemfontein and very common at Ingogo. The summer-plumage was nearly complete by the end of October.

28. Coliopasser ardens. (318.)

In Ingogo this bird is found among the tall reeds by the banks of the rivers, where it is fairly common in small flocks.

29. Urobrachya axillaris. (328.)

At Ingogo I saw a few males of this species in adult summer-plumage in January; they were very shy, restless, and pugnacious, and were probably guarding their nests. They frequented damp places.

30. Pyromelana minor. (335.)

Observed high up on the slopes of the mountains above Ingogo.

31. Pyromelana taha. (349.)

Found in considerable numbers in the reed-beds near Volksrust, Ingogo. My brother (G. V. Clarke, D.S.O., 18th Hussars) informs me that he saw nests of this species built among the grass near the swamps, and not among the reeds.

32. Pyromelana oryx. (343.)
Common at Ingogo and Bloemfontein, nesting in large colonies in the reeds. At Bloemfontein there were also a few nests in the young poplar trees.

33. Quelea quelea. (350.)
Common in the Modder Bush in small flocks. In winter the bill is crimson, the iris brown, and the legs are salmon-coloured.

34. Ortygospiza polyzona. (389.)
Abundant at Ingogo.

35. Sporopipes squamifrons. (452.)
Very common in the Modder Bush in small flocks.

36. Estrilda astrild. (399.)
Common at Ingogo in small flocks.

37. Estrilda subflava. (404.)
Common along the rivers at Ingogo; always in small flocks. I never saw it elsewhere. G. V. Clarke informs me that he found its eggs in the deserted nests of *Pyromelana oryx*, and took three clutches, much incubated, in a small reed-bed near Bronker's Spruit.

38. Plocepasser mahali. (468.)
Common in thorn-scrub, especially near the Modder River. The call-notes and cackling of the flocks are very pretty. Iris reddish brown; bill dark horn-coloured; feet pale greyish flesh-coloured.

39. Xanthophilus olivaceus. (531.)
Sitagra capensis caffra Stark, Fauna of S. A., Birds, i. p. 70.
Abundant at Ingogo.

40. Hyphantornis velatus. (549.)
Bloemfontein. Abundant. In winter the iris is dark brown, the bill horn-coloured (paler below), the legs horn-coloured. In summer the iris of the male is golden orange, the bill black, and the legs dark flesh-coloured. This bird changes into summer-plumage about Sept. 1st. I have found eggs on Sept. 7th. It nests in the willows over the water, but also

in the fruit-trees. It cuts off all the leaves and twigs near its nest, except those by which the structure hangs. This bird is much disliked by the farmers, as it is so destructive to the fruit-trees. The eggs vary greatly in colour.

41. LAMPROCOLIUS PHŒNICOPTERUS. (598.)
Bloemfontein. Common. Iris golden yellow; feet and bill black.

42. SPREO BICOLOR. (608.)
Bloemfontein. Common. Nesting in the banks of the larger spruits. Iris straw-yellow; feet black; bill brownish black; base of lower mandible and cere at gape yellow.

43. AMYDRUS MORIO. (616.)
Bloemfontein and Ingogo. A small flock of these birds was met with twice near Bloemfontein; at Ingogo they were very abundant. Bill and feet black; iris dark brown.

44. DILOPHUS CARUNCULATUS. (630.)
Bloemfontein, common. I saw no specimens bearing wattles.

45. BUPHAGA ERYTHRORHYNCHA. (577.)
At Ingogo a pair or two of this Oxpecker were generally to be seen at the same place, perched on the ponies or cattle while grazing.

46. CORVUS CAPENSIS. (639.)
I often saw a pair of these Crows at Ingogo, and once four together. They frequented the grassy slopes of the mountains, and were commonly seen perched on trees or bushes. I never saw them at carrion.

47. DICRURUS AFER. (646.)
Common in the Modder Bush and at Bloemfontein, but very shy, probably because they are frequently pursued by farmers on account of their killing the bees.

48. FISCUS COLLARIS. (693.)
Bloemfontein and Ingogo. I shot one in the act of carrying off a Cape Robin (*Cossypha caffra*). The specimens procured were all males.

49. Fiscus subcoronatus. (694.)

At Bloemfontein the two supposed species of *Fiscus* interbreed. I was unable to obtain a male *F. subcoronatus* or a female *F. collaris*. I found a nest in October: the male, which I shot, was *F. collaris*, and the female *F. subcoronatus*. I was very close to the latter and saw her distinctly, but failed to kill her.

50. Enneoctonus collurio. (709.)

I saw two or three of these Shrikes at Ingogo. A fine male which I shot was accidentally destroyed.

51. Pelicinius gutturalis. (762.)

Common at Bloemfontein, where it nests in low bushes.

52. Pycnonotus layardi. (830.)

Common at Ingogo. Iris dark brown; bill black; legs dark brown.

53. Pycnonotus nigricans. (831.)

Bloemfontein, very common. Bill and feet black; iris very dark brown; a thick orange cere round the eye.

54. Sylviella rufescens. (969.)

Bloemfontein. A friend shot and brought me a pair of these birds; I never met with them alive.

55. Apalis scita. (985.)

Two specimens of this species were seen near Bloemfontein; they appear to have much the habits of our Chiffchaff when hunting for food.

56. Eremomela flaviventris. (933.)

I saw a few specimens of this bird hunting among some low bushes in the open veldt near Bloemfontein, and obtained one.

57. Prinia hypoxantha. (1021.)

Common near Ingogo, in the kloofs of the Drakensberg, in small parties. Iris hazel; bill black; legs flesh-coloured.

58. Prinia flavicans. (1023.)

Bloemfontein. Iris light hazel; feet flesh-coloured; bill horn-coloured. Commonly seen hunting for food, wherever low scrub or bushes were to be found. On 26th Oct., 1901, I discovered a nest of this bird in a low bush by the Modder. It was pear-shaped and closely woven, with a small entrance-hole about two inches from the top; it contained five eggs, which were bluish white, with bold spots of dark brown.

59. SPILOPTILA OCULARIA. (1026.)

Occasionally seen in dwarf bushes on the veldt near Bloemfontein. Iris hazel; legs brownish flesh-coloured; bill black.

60. CISTICOLA CURSITANS. (1027.)

Common at Bloemfontein and Ingogo, in the open veldt.

61. CISTICOLA TINNIENS. (1033.)

One pair was obtained at Bloemfontein; it was very common at Ingogo, on the river-banks and in marshy places.

62. SPHENŒACUS NATALENSIS. (1072.)

Not uncommon among rank herbage at Ingogo, but of skulking habit and hard to see.

63. ACROCEPHALUS BÆTICATUS. (1107.)

Common in the reeds on the river near Ingogo. Iris dark brown; legs and feet grey, tinged with olive; lower mandible flesh-coloured, upper horn-coloured.

64. ERYTHROPYGIA PÆNA. (1133.)

Abundant in the bush by the Modder River.

65. AËDONOPSIS CORYPHÆA. (1146.)

Not uncommon at Bloemfontein in the scrub on the kopjes. Iris brown; bill and feet black.

66. COSSYPHA CAFFRA. (1165.)

Common at Bloemfontein, and in habits very similar to the English Robin.

67. PRATINCOLA TORQUATA. (1192.)

Common at Bloemfontein and Ingogo, perching mostly on the tallest grass-stems, &c. I frequently observed the Fiskal Shrike pursuing this bird.

68. TARSIGER SILENS. (1202.)

Rather local near Bloemfontein, but very abundant where found. Bill and feet black: iris dark brown. This bird selects for its perch the top of a bush or some other commanding position. It bears a close resemblance to the Fiskal Shrike (*Fiscus collaris*), and in fact at a little distance is not easily distinguishable from that bird.

69. TURDUS LITSITSIRUPA. (1215.)

The only specimen obtained at Bloemfontein was alone and very tame.

70. TURDUS CABANISI. (1232.)

Locally common at Bloemfontein, and resembling our Blackbird in habits.

71. MONTICOLA RUPESTRIS. (1240.)

Abundant in the cliffs near Ingogo. Unless killed outright it is difficult to obtain, and unluckily one or two males were lost, having escaped into holes after being wounded.

72. MONTICOLA EXPLORATOR. (1242.)

This Rock-Thrush is not uncommon in winter on the kopjes near Bloemfontein, where boulders crop out through the grass, and is occasionally also found where the ant-hills are thick on the veldt. The blue in my specimens faded after death.

73. SAXICOLA SINUATA. (1247.)

This is the commonest and the tamest of the Chats round Bloemfontein. I found a nest with young birds under a stone on a kopje in October.

74. SAXICOLA PILEATA. (1254.)

Bloemfontein. This Chat is common where the veldt is grazed short. It perches on the ant-hills, and sings on the wing. It is much attracted by newly turned-up earth. Iris, bill, and legs black.

75. SAXICOLA GALTONI. (1248.)

At Bloemfontein this Chat occurs among the houses and in the kopjes, as well as in the Modder Bush. Iris, bill, and legs black.

76. Saxicola monticola. (1276.)

Common at Bloemfontein and Ingogo. I found two or three nests—one in the wall of a fort, another under a boulder on a kopje. The grey form was uncommon at Ingogo. At Bloemfontein some of the grey birds had white shoulder-patches, others had not. I saw one dark male there with a white head. This is a strong-flying and active bird.

77. Myrmecocichla bifasciata. (1279.)

This bird seems to resemble our Whinchat in its habits, and to prefer perching on bushes. It is common on the lower slopes of Inkwelo and Majuba.

78. Myrmecocichla formicivora. (1281.)

Bloemfontein and Ingogo. This Chat is very common round Bloemfontein wherever there are ant-hills. The cock sings well; he has also a habit of hovering in the air. Although often scattered about, these birds seem to keep in family parties during the winter, and when a broken ant-hill has been found they quickly unite. I have seen them apparently shew considerable sympathy or curiosity when one of their party was wounded. They perch on bushes and buildings as well as on ant-hills; I have seen one singing on the sail of a windmill and frequently on a tent-pole. They nest in holes, apparently excavated by themselves to a depth of four or five feet. I took a nest with four hard-set eggs on October 1st. The eggs are white.

79. Pachyprora capensis. (1360.)

I obtained specimens of this bird in dense bush in a kloof near Majuba Hill.

80. Cotile cincta. (1400.)

Bloemfontein. This species nests in single pairs in the banks of the spruits. I opened one or two holes and found that the eggs had not been laid on Nov. 13th. This is a bird of rather heavy flight for a Swallow.

81. Cotile paludicola. (1402.)

Locally abundant at Bloemfontein in winter.

82. PTYONOPROGNE FULIGULA. (1407.)

Ingogo. I believe that I saw this bird also at Bloemfontein, breeding in the crags of the Drakensberg.

83. HIRUNDO RUSTICA. (1413.)

At Ingogo the Chimney-Swallow was common in summer, but did not nest. In March the numbers seemed to increase greatly; the weight of the flocks bent down our field-telephone wires.

84. HIRUNDO ALBIGULARIS. (1418.)

Bloemfontein, and also observed at Ingogo. Bill and feet black; iris dark brown.

This Swallow is usually seen about the farmhouses. I saw one nest on a bracket against the wall of a verandah.

85. HIRUNDO CUCULLATA. (1427.)

I first noticed this Swallow at Bloemfontein in the middle of October; but it was never so abundant there as *H. albigularis*. At Ingogo it was common. I found a nest attached to the roof of a coal-heading on the river-bank.

86. PETROCHELIDON SPILODERA. (1438.)

Abundant at Bloemfontein and Ingogo. The nests are arranged in tiers, the whole colony resembling a gigantic piece of honeycomb. I saw some colonies on buildings in Bloemfontein, others on the perpendicular face of a bank overhanging a little stream, and very frequently on the railway-bridges.

87. CYPSELUS BARBATUS. (1464.)

Cypselus barbatus Scl. & Stark, Fauna of S. A., Birds, iii. p. 25.

This Swift appears in numbers at Bloemfontein at the end of September. The specimens killed were very fat and were feeding on winged ants.

88. CYPSELUS CAFFER. (1469.)

Bloemfontein. This Swift breeds in the farm-buildings under the eaves, and in holes in walls. I obtained specimens on September 16th.

89. CYPSELUS AFRICANUS. (1468.)

First seen on the Modder at the end of August. The specimens shot in October were extraordinarily fat; they were feeding on winged ants in company with *C. barbatus*.

90. CAPRIMULGUS RUFIGENA. (1476.)

Bloemfontein and Ingogo. Iris dark brown; bill horn-coloured; feet dusky flesh-coloured.

91. COSMETORNIS VEXILLARIUS. (1497.)

I obtained a damaged skin of this Goatsucker at Ingogo from a platelayer, who had killed it there two or three months before. "No one in the neighbourhood had ever seen the bird before," he told me.

92. CORACIAS GARRULUS. (1512.)

Uncommon. A male specimen was killed at Ingogo on March 1st.

93. MEROPS APIASTER. (1536.)

Common at Bloemfontein, where it appeared about Sept. 20th. I observed some evidently breeding early in November. I saw no Bee-eaters in Natal.

94. UPUPA AFRICANA. (1550.)

Common in the thickets near water at Bloemfontein.

95. RHINOPOMASTUS CYANOMELAS. (1559.)

Bloemfontein. Common in the mimosa-bush along the Modder River. Bill black; gape yellow; iris dark brown-black; legs dark brown-black.

96. CERYLE RUDIS. (1599.)

Common at Bloemfontein and Ingogo. This bird fishes from the wing, hovering over the water to find its prey and then plunging in to secure it.

97. CERYLE MAXIMA. (1600.)

Bloemfontein. One of these Kingfishers used to arrive regularly at a dam near Bloemfontein as the light was failing. I have seen it on its way there passing over the veldt at a height considerably above gunshot. I do not know whether this species is supposed to be crepuscular.

98. CORYTHORNIS CYANOSTIGMA. (1606.)

This bird was more frequently seen by the mountain-streams near Ingogo than at the dams of Bloemfontein. When pursued it will sometimes hide in the reeds.

99. Colius erythromelon. (1638.)

Iris dark brown; eyelid grey with a red rim; bare skin on the face coral-red; base of the bill deep pink, tip black; feet deep pink, nails black.

About September several flocks of these birds appeared near Bloemfontein and stayed for about a month. They fed on the leaves and berries of a bush, the stone in the berry, larger than a haw, being often swallowed. Their flight is rapid, and the flocks move in close order. A farmer called this and the next species "Parrots," and complained of their destructiveness in his garden. They were very wild: one flock appeared to contain about forty birds; this was an unusually large number.

100. Colius capensis. (1629.)

Not rare at Bloemfontein, commoner by the Modder River; always in small flocks. Of weak flight and easy of approach. Bill bluish white with a black tip to the upper mandible; iris dark grey; legs coral-red.

101. Coccystes jacobinus. (1693.)

Only seen on one occasion in the Modder Bush.

102. Coccystes serratus. (1697.)

A pair of these Cuckoos was seen in some thorn-bushes on the banks of a stream near Bloemfontein. I unfortunately failed to shoot the cock, but obtained the hen.

103. Cuculus gularis. (1701.)

Obtained in the Modder Bush. Iris yellow; legs yellow; skin round the eye yellow; bill at the base orange with a horny tip. Seen twice near Bloemfontein.

104. Chrysococcyx smaragdineus. (1709.)

A pair of these birds were seen among some thorn-trees near Bloemfontein.

105. Chrysococcyx cupreus. (1712.)

Bloemfontein. Bill dark horn-coloured; iris scarlet; rim of eye scarlet; legs dark grey. Also seen in the Modder Bush.

106. Tricholæma leucomelas. (1750.)

The note of this bird is like the creaking of a door. It moves among the branches like a Titmouse. The stomach of one shot contained pomegranate and other seeds.

107. Geocolaptes olivaceus. (1802.)

Only one family party was seen at Bloemfontein, but at Ingogo this Woodpecker was abundant. I saw a pair settle on some bushes; they perched on the topmost twigs. Iris reddish straw-coloured; legs dusky flesh-coloured; bill black.

108. Columba phæonota. (1860.)

I saw this Pigeon near Bloemfontein only on the high kopjes, but at Ingogo it was very common, and the flocks which came to feed on the grain scattered where convoys had camped afforded us good shooting and excellent pies. Bill horn-coloured; gape and bare space by the eye rosy crimson; iris pale yellow; feet rosy, nails horn-coloured.

109. Turtur capicola. (1883.)

Very common at Bloemfontein and Ingogo; it ranged further up the kloofs, kopjes, and wild ground than *T. senegalensis*, though it is also abundant at lower elevations.

110. Turtur senegalensis. (1887.)

Very common at Bloemfontein wherever bushes and cultivated ground are found together; occurs very sparingly at Ingogo.

111. Œna capensis. (1897.)

Very common at Bloemfontein and Ingogo; frequently seen feeding on spilled grain in our horse-lines. It nests on the ground among the rocks or very low down in the bushes on the kopjes.

112. Strix flammea. (1937.)

I saw only one pair of this Owl, which came out of a cave in a krantz at Bloemfontein.

113. Strix capensis. (1939.)

The only pair seen rose from some long rough grass at Ingogo.

114. BUBO MACULOSUS. (1965.)

Common at Bloemfontein and Ingogo. This Owl spends the day either in a tree or in the long grass. There was a nest under a big stone in a kopje near Bloemfontein with three young in it, one of which was taken and reared, but eventually escaped.

115. FALCO MINOR. (1977.)

Common at Ingogo. Once, when I was lost in the mist on the top of Inkwelo, I saw several of these Falcons come to roost in the evening, passing quite close to me. These birds will follow pointers when working for Quail. I have seen this myself, and was told that it was their usual custom.

116. FALCO BIARMICUS. (1981.)

Bloemfontein. A pair of these Falcons mobbed me on Sept. 29th near a krantz, where they were probably nesting.

117. TINNUNCULUS RUPICOLA. (1995.)

Common at Bloemfontein and Ingogo. The crop of one specimen that I shot was full of ants.

118. TINNUNCULUS RUPICOLOIDES. (1996.)

Bloemfontein, but not so common as the last species; it keeps more exclusively to the open veldt. A nest with eggs was found in a low thorn-tree on Oct. 16th, and the female was obtained.

119. ELANUS CÆRULEUS. (2009.)

Common in summer at Bloemfontein and Ingogo.

120. AQUILA RAPAX. (2022.)

Only one specimen, shot at Bloemfontein, was observed.

121. NISAËTUS SPILOGASTER. (2026.)

Ingogo. My servant, who skinned this bird, told me that its crop was full of grasshoppers. Bill horn-coloured, base greenish yellow; feet yellow.

122. BUTEO JAKAL. (2031.)

This is a common bird at Ingogo, frequently to be seen perched on the telegraph-posts.

123. Buteo desertorum. (2034.)

A single specimen was obtained at Ingogo. Mr. W. L. Sclater (in the 'Fauna of Africa,' Birds, iii. p. 334) says "not hitherto noticed in Natal." Iris dark brown; cere and legs yellow. I believe that I saw several pairs near Bloemfontein.

124. Circus macrurus. (2076.)

Ingogo. I was not able to obtain an adult male of this Harrier—it is very wary. A young bird which I shot had grasshoppers in its crop.

125. Circus pygargus. (2077.)

This is apparently an abundant summer visitor at Bloemfontein. The crop of a female which I shot contained lizards.

126. Secretarius serpentarius. (2086.)

Bloemfontein and Ingogo. I saw several large nests of this species placed on low thorn-trees. The crop of the specimen shot contained lizards and locusts.

127. Gyps kolbii. (2092.)

Common at Ingogo.

128. Ibis æthiopica. (2098.)

Ingogo. A flock of these Ibises frequented a marsh near Volksrust. I lost the only skin that I procured.

129. Ibis calva. (2102.)

Ingogo. Very common in the vicinity of Volksrust, frequenting the sides of the roads and fields inside the lines.

130. Hagedashia hagedash. (2104.)

A few of these birds used to feed in some plantations of Australian wattles near Ingogo.

131. Herodias brachyrhyncha. (2114.)

I obtained a single specimen of this bird at Ingogo, but saw no others. "Iris and bill yellow; legs black."

132. Ardea melanocephala. (2121.)

Bloemfontein. There was a fine colony of this Heron breeding in some tall eucalyptus-trees at Fischer's Farm near Bloemfontein. Iris straw-yellow; legs grey; bill grey; bare space on the face grey, with a greenish patch in front of the eye.

133. Ardea cinerea. (2122.)

A small colony of the Common Heron was breeding at Wessel's Farm near Bloemfontein.

134. Nycticorax griseus. (2127.)

Two pairs of the Night-Heron were seen at Bloemfontein and one bird at Ingogo.

135. Ciconia alba. (2136.)

I saw a single White Stork occasionally at Ingogo.

136. Ciconia nigra. (2137.)

Bloemfontein. Occasionally a pair of this species was seen and sometimes a single bird. On Sept. 30th I found a nest of the Black Stork with three eggs; it was built on a rock projecting from the face of a low cliff on the top of a high kopje, a long way from any water. It was a very large shallow structure.

137. Scopus umbretta. (2135.)

At Bloemfontein the nest of this bird was generally placed in the fork of a willow, and at Ingogo on the ledge of a rock. The bird was very common at both places.

138. Chenalopex ægyptiacus. (2261.)

One pair of these Geese nested at Wessel's Dam, Bloemfontein. I saw the young goslings towards the end of August.

139. Anas sparsa. (2267.)

Apparently rare. I shot one example of this bird on the Buffalo River, near Ingogo.

140. Pœcilonetta erythrorhyncha. (2275.)

Occasionally a few pairs of these Ducks were seen, and once a very large flock on a good-sized dam.

141. Nyroca brunnea. (2282.)

The specimen obtained was one of a pair shot by a brother officer near Bloemfontein, and I saw no others.

142. PODICIPES CAPENSIS. (2288.)
Ingogo and Bloemfontein.

143. FULICA CRISTATA. (2295.)
Bloemfontein. Iris dark brown; legs leaden coloured, with a green garter; bill whitish; forehead &c. white, with two chestnut-red knobs above.

144. RALLUS CÆRULESCENS. (2300.)
Only two examples of this Rail were met with, in long grass by a little stream near Ingogo. Legs horn-coloured; iris scarlet; rim of eye scarlet; bill—basal half magenta, tip horn-coloured.

145. CREX PRATENSIS. (2303.)
I obtained two examples of the Land-Rail near Ingogo.

146. ORTYGOPS AYRESI. (2314.)
Coturnicops ayresi Gurney, Ibis, 1871, p. 352, pl. vii.
Ortygops ayresi Sharpe, Cat. B. xxiii. p. 139.
The only specimen of this rare Rail obtained was found feeding on some floating weeds on a small dam near Bloemfontein on October 9th, 1901; I nearly passed it over, thinking that it was a young Coot. Iris black; legs dark brown with a greenish tinge; bill dark horn-coloured.

147. TURNIX LEPURANA. (2324.)
This bird occurs near Ingogo, singly or in pairs, in very high grass; although five inches of covert would serve to hide it, it prefers to live under five feet of grass. Iris straw-coloured; bill bluish grey; legs and feet flesh-coloured.

148. COTURNIX CAPENSIS. (2331.)
Apparently resident all the year at Bloemfontein and Ingogo. It is found in small numbers on arable ground.

149. COTURNIX DELAGORGUII. (2332.)
There was a considerable arrival of these Quails while I was at Ingogo; they stayed about six weeks. The white farmers said that in twenty years they had never seen the birds before. The Kaffirs stated that they always followed a war,

and they were evidently attracted by a weed which grew in the deserted mealie-patches—so perhaps there is some truth in the statement. In the late afternoon they resorted to the banks of the streams. On February 3rd, in two hours, twenty-two brace were killed by two guns.

150. FRANCOLINUS AFRICANUS. (2360.)

Examples of this Francolin from Bloemfontein had the back of the tarsus grey. The Natal specimens were all from the top of Inkwelo, 6800 feet (I saw no other coveys in Natal). The colour of the plumage was much duller than in the Bloemfontein birds. At Bloemfontein I found them only on the high kopjes, and much less abundant than *F. gariepensis*.

151. FRANCOLINUS LEVAILLANTI. (2363.)

This Francolin was not abundant, but possibly it had been a bad breeding-season. It is a very difficult bird to flush: it seems to live in small coveys and always to keep to certain favourite spots; I generally found it on hill-sides some way below the tops.

152. FRANCOLINUS GARIEPENSIS. (2364.)

Generally distributed over the veldt and the bases of kopjes at Bloemfontein. The crop of one shot contained berries and a few beetles, that of another bulbs.

153. NUMIDA CORONATA. (2390.)

This Guinea-fowl is found in the Modder Bush, often in large flocks. It is very quick on its legs; it flies well, and can continue to do so for a considerable distance. Base of the bill and base of the bone on the head blood-red, remainder of both horn-coloured; crown to below eye blood-red, bare space round eye blue; wattles mauve, with the tips scarlet; neck deep rich blue with green reflexions; legs blackish slate-coloured; iris dark brown.

154. PTEROCLES NAMAQUUS. (2401.)

At Bloemfontein this Sand-Grouse appeared in July, often in flocks of many hundreds. In August, though the greater number were still in flocks, there were a few pairs breeding;

after September there were very few or none left. At Ingogo several appeared in May; I was informed by an old resident that he had never seen them before.

155. Afrotis afroides. (2415.)

Abundant on the veldt at Bloemfontein. The male is very noisy.

Male. Bill pink; nail horn-coloured; iris grey-brown; bare ear-space drab; legs yellow, nails horn-coloured.

Female. Bill yellow at base, remainder horn-coloured.

156. Heterotetrax vigorsi. (2416.)

I saw only one cock and two hens of this Bustard at Bloemfontein; at Ingogo it was fairly common in summer.

157. Otis cærulescens. (2428.)

Of this species also I saw only one cock and two hens on the veldt near Bloemfontein, and obtained one specimen.

158. Otis ludwigi. (2419.)

There were a few of these Bustards round Ingogo in the summer, but they were very wild.

159. Hoplopterus speciosus. (2452.)

Fairly common, at any rate in winter, near Bloemfontein. It is fond of irrigated ground. I have never seen it on the dry veldt, but always in muddy places. Bill and legs black; iris deep crimson.

160. Stephanibyx coronatus. (2453.)

Bloemfontein and Ingogo. Common, and very noisy when disturbed, especially at night. It is fond of dry short turf on the veldt. It is rather sluggish in the morning, and goes to water in the afternoon. I found three eggs of this Plover in September; they were laid on the bare ground, with no attempt at a nest. Legs scarlet; bill at base scarlet, tip black; iris yellow.

161. Stephanibyx melanopterus. (2454.)

A few of these Plovers appeared at Bloemfontein in May, and stayed about for six weeks. For Lapwings they are rather silent. They were common also at Ingogo in summer, and some that I shot were so young that they had probably been bred there. Sometimes they consort with *S. coronatus*, but seem to be more attracted by manure-heaps than that species. Circle round the eye scarlet; legs deep crimson, shading into purple and black; beak black; iris dark brown.

162. Charadrius asiaticus. (2463.)

Several small flocks of this Plover appeared on the bare veldt at Bloemfontein in November, some weeks after the other migratory waders.

163. Charadrius pecuarius. (2467.)

These birds were very common by the dams at Bloemfontein. I frequently saw them in the early morning on bare stony ground far from water. They were nesting in August and September, laying two eggs in the mud by the side of the dams; they cover the eggs with bits of mud. Bill and legs black; iris dark brown.

164. Ægialitis tricollaris. (2472.)

Common at Bloemfontein and Ingogo.

165. Tringa minuta. (2481.)

Early in May I accidentally killed one of these Stints at Bloemfontein, while firing at some Ruffs. I did not notice the bird again till September, when it reappeared in some numbers, always keeping to the edges of the dams.

166. Pavoncella pugnax. (2484.)

Bloemfontein and Ingogo. There were some flocks of this bird about Bloemfontein in May. At the end of August they reappeared, and were extraordinarily numerous in September.

167. Totanus canescens. (2489.)

Totanus nebularius, Shelley, B. Afr. i. p. 192.

There were a few of these birds on the dams at Bloemfontein all the winter, but a large arrival took place early in September.

168. Totanus stagnatilis. (2490.)

I saw this Sandpiper at Bloemfontein, sometimes singly, sometimes in small flocks, but always near water, from September to November.

169. Totanus glareola. (2491.)

Common at Bloemfontein and Ingogo from October onwards; generally found singly.

170. Totanus hypoleucus. (2494.)

I saw single individuals of this species occasionally at Ingogo, on the banks of the swift mountain-streams, from January to March.

171. Rhynchæa capensis. (2501.)

The only specimen obtained rose from some rough grass at the edge of a flooded hollow near Ingogo.

172. Œdicnemus capensis. (2511.)

This Thick-knee is sparingly distributed at Bloemfontein and Ingogo.

173. Cursorius rufus. (2516.)

Common, generally in pairs, sometimes in small flocks, at Bloemfontein and Ingogo. It prefers the close-grazed and burnt ground. Two eggs are laid early in August on the bare ground, though sometimes a few shreds of dry dung are arranged round them. I found eggs again in October. This bird is excellent eating.

174. Cursorius temmincki. (2517.)

Not uncommon at Ingogo, though not so numerous as *C. rufus*.

175. Rhinoptilus bicinctus. (2518.)

Very tame at Bloemfontein, frequenting the close-grazed turf. A specimen which I opened had gorged itself with ants. This bird lays a single egg on the bare ground in the latter half of July, and when sitting will defend itself with great courage. I also found eggs in October.

176. Glareola melanoptera. (2526.)

Bloemfontein and Ingogo. This Pratincole appeared in November: apparently most of the specimens were then immature. It was also common at Ingogo.

XL.—*Some Anticriticisms.*

By Ernst Hartert, Ph.D., F.Z.S.

To call attention to and to rectify all errors in ornithological literature is neither possible nor, unfortunately, always appreciated by the corrected party. If, however, one is inadvertently and erroneously accused of careless mistakes, one must sometimes set matters right, because errors contained in positive statements are more likely to be propagated and will cause other errors. If, moreover, the whole system for which one is fighting and working is attacked in a review, one must reluctantly answer. These considerations have caused the following anticriticisms.

I.

In 'Bull. B. O. Club,' xii. p. 83 (June 1902), Mr. Dresser says that some eggs of *Ammomanes phœnicuroides* "belonged to the form recently differentiated and described by Mr. Hartert (Bull. B. O. C. xii. p. 43) under the name *Ammomanes cinctura zarudnii.*" This means nothing more or less than that I have described *Ammomanes phœnicuroides* (which I treat as a subspecies of *A. deserti*) as a new subspecies of an entirely different species of *Ammomanes*! I need hardly say that I am sufficiently acquainted with the species of *Ammomanes* (one of my favourite groups of birds) to avoid such an error, and that there can be no other reason for Mr. Dresser's statement than the fact that Mr. Zarudny collected examples of both species (*A. deserti phœnicuroides* and *A. cinctura zarudnyi*, erroneously spelt *zarudnii* by Mr. Dresser) in the same districts of Eastern Persia, where they live close together, as do other forms of *A. deserti* and *A. cinctura* in North Africa.

II.

In 'The Ibis,' 1903, p. 593, curiously enough, Colonel Bingham charges me with a similar offence, viz.: that I have described a known species as a new subspecies of quite a different species. He says:—

"51. Hemixus holti (Swinh.).

"This is the species, I think, separated by Mr. Hartert as a subspecies of *H. tickelli* under the name *H. tickelli binghami.* It agrees fairly well with specimens of *H. holti* in the British Museum."

The case, however, is quite different. Three years ago we received from Col. Bingham a bird which he had named *Hemixus maclellandi* and had recorded under that name in the Journ. As. Soc. Beng. lxix. p. 111 (1900). This bird was, nevertheless, not a *Hemixus maclellandi* at all, but a form of *Hemixus* (or *Iole*) *holti*, differing from the typical *H. holti* in various details pointed out by me in Nov. Zool. 1902, p. 558, where I described the specimen in question under the name

IOLE HOLTI BINGHAMI,

but not as *Iole tickelli binghami*! It gave me great pleasure to name a bird in honour of one of the best field-ornithologists known to me, and I believe it was the first time that a bird had been named after Col. Bingham. I only regretted that I had no occasion to associate a more strikingly different bird with his name, but still more do I regret now that my work, instead of avoiding a mistake for the future, has led Col. Bingham to make a still more erroneous statement.

III.

In 'The Ibis,' 1904, p. 291, appeared what was apparently meant for a review of the first part of my book 'Die Vögel der paläarktischen Fauna.' This review is of such a nature that I cannot refrain from answering it—not of course (as my brother-ornithologists will understand) to defend my person, but to defend the system for which I fight, for the sake of truth and the progress of our beloved science.

"It is quite time that a protest should be made against"* reviews in which books are objected to because they are not "conservative" enough, and reviews which only or mostly deal with the nomenclature of a book, while nomenclature (though first striking the eye in the headings of the species) is only a minor detail and not the gist of science. To be conservative in principle is not scientific. We cannot arrest the progress of science and nomenclature, and we must alter our views when we learn new facts and know better.

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* *Cf.* 'Ibis,' 1904, p. 292.

The "Editors" compare my treatment of species and subspecies with that of Mr. Dresser, whom they "praised for his steadfast adherence to the old-fashioned binomial system of nomenclature," and with whom they agree because "even he recognises subspecies in certain cases." If, however, the "Editors" had gone into details and had studied some of the cases in question, they would have found that just the fact that Mr. Dresser had recognised certain subspecies and neglected others is the weakest point in his book and makes it a very misleading mentor. Why, for example, has Mr. Dresser recognised the various forms of the Dipper, when, on the other hand, he has passed over in silence more than a hundred other forms which are equally or even more distinct? That is a purely arbitrary proceeding, and therefore not scientific. It is true that Mr. Dresser ends his book with the sentence: "Subspecies described under trinomial titles I have not considered it necessary to be included"; but is *that* a scientific method? My opinion is that they should only be passed over after due consideration of their value, but not because they were "described under trinomial titles." Such due consideration they have not received in Mr. Dresser's 'Manual'—they were not quoted because they were "described under trinomial titles." Thus the synonymies in the 'Manual' are incomplete and almost useless, as one does not know which forms, inhabiting which countries, have been named. But also many forms described under binomial titles have not been duly considered in the 'Manual,' or else such remarks as on p. 886, that *Asio canariensis* Mad. is not separable from *Asio accipitrinus*, while it is a most distinct form of *Asio otus*, or that *Strix ernesti* Kleinschm., which is by far the whitest form of Barn-Owl, is a "dark race" of the latter, could not have been made. Other names are not even mentioned, though described binomially. No doubt this is the praised steadfast adherence to the "old system," which allowed only one form of the Barn-Owl and only one of the Long-eared Owl. But the majority of ornithologists are no longer content with the "old system," Science has progressed in rapid strides within the last twenty years. We all know now that these Owls, as well as most other birds, are not the same everywhere, but that they are easily separable into various geographical forms. The study of these geographical representatives—or subspecies, as they are now, somewhat unfortunately, called—is scientifically of the same importance as that of the widely different species, and neither Mr. Dresser nor the Editors of 'The Ibis' will be able to stop the progress in that direction, whatever they may do. If this is admitted, and I am sure it is not necessary to explain the importance and the necessity that local forms should be studied, then we must also have names for them, in order to talk of them; and it is most unfortunate that some of the leading British ornithologists still refuse trinomials for them! What can be more simple than calling all the Crested Larks (except those belonging to *G. theklæ*, a distinct species living in the same area as some forms of *G. cristata*) *Galerida cristata*, adding a third name when the various local races are discussed: *Galerida cristata pallida*, *Galerida cristata riggenbachi*, *Galerida cristata nigricans*, *Galerida cristata cristata*, *Galerida cristata macrorhyncha*, *Galerida cristata arenicola*, &c.? What serious objection can be made to this very simple method, which leaves it open to everyone to use binomial or trinomial names—trinomials if the local forms are discussed, binomials if the broad facts (species) only are recognised? This choice to use binomials or trinomials is one of the advantages of our system, every trinomial being easily reduced into a binomial, while the other method muzzles us and forces its contentions on to us without choice.

But what was and what is the praised "old system"? Let me quote instances from the last-named group, that of the Crested Larks, so as to remain at one subject.

When Dr. Blanford described a new "variety" of Crested Lark from Abyssinia, in 1870, he called it

"ALAUDA (GALERITA) ARENICOLA? Tristram, var. FUSCA."

I suppose that was the old system.

I would call this form (if I could separate it)

"GALERIDA THEKLÆ FUSCA."

That is with three names (easily reduced to two) instead of six words and a comma.

And what has Mr. Dresser done with the Crested Larks? In the 'Manual' he has recognised two Crested Larks, calling them

"CORYDUS CRISTATUS" and
"Subsp. CORYDUS ISABELLINUS."

I suppose that is another form of the "old system."

Let us, nevertheless, see what it means, for it is full of mistakes. First of all, two distinct species, *G. cristata* and *G. theklæ* are lumped. Secondly, one out of about ten equally distinct subspecies is recognised, and this arbitrary proceeding is backed by the bold statement that "this species is subject to considerable individual variation both in colour and size, and has consequently been greatly subdivided by modern ornithologists." This statement, however, apart from the insinuation that "modern ornithologists" name individual aberrations, is a dangerous misrepresentation of facts, because there is, on the contrary, very little individual variation in the Crested Larks, the variation being connected with the "habitat" and geographically limited! If Mr. Dresser had not made his erroneous statement, and if he had united all Crested Larks, saying, for example, "Adhering to the old-fashioned method of only recognizing broad facts in nature, disregarding geographical races and troublesome details, I only recognize one species, which I call *Galerida cristata*," then we should be able to understand him. There would then only be one mistake, the uniting of *G. theklæ* with it, which we cannot understand, since equally and even more similar species of *Phylloscopus*, *Acrocephalus*, and other genera are readily recognised in the 'Manual.' Admitting *G. isabellina* the author spoils everything—and where is the binomial system if he says "subspecies *Galerida isabellina*"? Is that shorter than *Galerida cristata isabellina*?

There remains another method, that of recognising all, even the most closely allied geographical forms and naming each with two names. This is Dr. Sharpe's method, forcibly brought before us in his 'Hand-list,' but it is most objectionable and disturbing. If I recognise *Galerida cristata* and *Galerida theklæ* as two species, subdividing each into a number of subspecies, it is clear to everyone, and illustrates at a glance a most important fact: what forms agree in their main characters, differing in certain details connected with geographical separation, and what (though they may be superficially similar) belong to totally different species inhabiting similar areas. Dr. Sharpe's method hides all this, and moreover raises objection and dissent. Ornithologists cannot be forced to allow as species, binomially named, two forms differing merely in the bill or wing being on an average two or three millimetres longer, while nevertheless such facts are not without significance and should not be overlooked. One might therefore separate such closely allied geographical races as subspecies, but general consent can never be obtained to treat them as species binomially named.

The Editors of 'The Ibis' confront my "four names" with Dresser's "two names," saying that they prefer the Raven being called "simpler and shorter" *Corvus corax* instead of *Corvus corax corax* L. It is probably not meant seriously to call the author's name a fourth name! To add it to a specific name is an old custom among zoologists and botanists. It can do no harm and is often very useful; moreover, it can be left out by all who do not care for it, and it is therefore not a burden to nomenclature. The whole phrase looks like a *captatio benevolentiæ* of the readers, and is not quite correct. I, too, call the Ravens *Corvus corax*, but when I distinguish between the various geographical forms I call the first-named one *Corvus corax corax*, repeating the specific term rather than using a new name "*typicus*" for the same. This is a mere detail and everyone can easily say "*typicus*" instead—my book does not prevent anyone from doing so. But what, again, does Mr. Dresser do? He recognises *Corvus corax* and *Corvus tingitanus*, passing over the equally distinct *C. hispanus*! That is again erroneous. It is not a question of simpler nomenclature, but a question whether we should study allied forms closely or follow preconceived ideas, uniting most or as many as we please of the geographical forms.

The Editors of 'The Ibis' hold me much to blame for preserving the original gender of those specific names which appear in the form of adjectives. In my opinion, the way towards a stable nomenclature is that of preserving the original spelling entirely, and to regard all names merely as names, not as adjectives in connection with the genera as substantives. This will go far towards uniformity. Otherwise there will be more doubtful cases than one may think. There is already a difference of opinion whether substantives like *piscator* and *sibilatrix* should alter their gender into *piscatrix* and *sibilator*, if connected with a genus of the other gender. Then there are many words the gender of which is doubtful and often wrongly accepted. There is the well-known term *Nucifraga*, evidently of masculine gender, meaning the Nutcracker, but universally treated as of feminine gender. There is *Ammomanes*, of Greek derivation (from *ἄμμος* and *μαίνομαι*), a word ending in *ης* and therefore masculine, yet always used as a feminine; there is *Halcyon*, generally looked upon as a femininum, yet in the 'Catalogue of Birds' a masculinum. On the other hand, the gender of most generic names is clear to every schoolboy, and it is an easy matter for all ornithologists who care for it to show that they have been at school and to alter the original gender, as preserved in my nomenclature, in accordance with their classic feelings. My book shews the original spelling of every name, and it is therefore useful to all those who care for strict priority, while nothing prevents those who are less particular from altering the gender of some of the specific terms.

It would seem that the Editors of 'The Ibis' have only glanced at some of the headings of my species and subspecies when they say that "the main point of the book is that the author calls upon us virtually to give up the binomial system." Alas! poor book, it had better have remained unwritten if there were no other points of more importance in it; but I am not modest enough to agree with the Editors of 'The Ibis.' Every genus in my book contains a "key" to the species which I recognise as such, and the names of all of them are binomial! Of course, my "*Corvus corax*" includes all the various races of the Raven, also the North European race, *Corvus corax corax*. It is, in my opinion, quite illogical to call one race out of half a dozen by two names, merely because it was the one named first, all the rest by three, merely because they were named subsequently. To repeat the specific name is decidedly simpler than any other method; I have tried them all, and my method is rapidly gaining ground: in the last ornithological number of the 'Tierreich' it is adopted, the Americans (Ridgway) have at last accepted it, &c. Moreover, of the 394 forms described in the first two parts of my book, about 120 are called by binomials, all those of which no geographical races are known. Surely that is not giving up the binomial system! On the contrary, I retain it throughout, merely supplementing it by trinomials where it is desirable.

For "joining together in one genus the Goldfinches, Siskins, Redpolls, and Linnets" I have given full reasons, showing the fallacy of former treatments. Of course the Editors of 'The Ibis' have the right to stick to their own ideas—and ideas about genera are generally differently interpreted and changeable,—but they are in error if they believe that in this case they have caught me slipping. I have not overlooked the generic name *Carduelis*. They ascribe it to "Schaef," but the author's name is not "Schaef," but "Schaeffer," abbreviated into "Schaeff." according to custom. Though he was certainly not a sheep

(Schaef), but a shepherd (Schaeffer), his names are not admissible, because he did not use binomial nomenclature. This can at a glance be seen on pages 25, 26, 32, 16, and others; moreover, he took most of his names from Brisson.

If the Editors of 'The Ibis' call "*Pica pica pica*" a monstrosity, what is their opinion about

"ALAUDA (GALERITA) ARENICOLA? Tristram, var. FUSCA"?

Unfortunately, I have still one more point to argue. The Editors have openly challenged me, asking: "Can Mr. Hartert say that if British skins of these birds were mixed up with some of their continental representatives, he would always be able to pick them out?"

Why was this question put? Evidently with the idea that one should always be able to pick out the various forms which one recognises, and with the supposition that the Editors—or I may say the senior Editor, because the junior Editor has not named new species or written monographs of difficult families of birds—can always easily distinguish ("pick out") the species they recognise, or at least those which they have described themselves. Unfortunately these views are both fallacious. The question was dangerous, and the arrow from their bow is springing back to the shooters. I will only quote two examples. In Cat. B. xiv., *Muscisaxicola albifrons* Tsch. has been redescribed as *Tænioptera holospodia* Scl., though specimens of both were to hand; in Cat. B. xv., *Pyriglena serva* Scl. and *Cercomacra hypomelæna* Scl. are described in two different genera, yet they are quite the same, absolutely indistinguishable. Where have I done a similar thing? Moreover, I am convinced that I shall, as a rule, be able to pick my new subspecies out easily if put to a fair test, although I myself do not demand it, nor expect it in all cases for all future. In the introduction to my book I have explained that it is no longer the goal of ornithological studies to "name" every single individual and to put the "correct name" on the label. The most important thing is to find out and to interpret facts, and if we do this we shall often find that an excellent geographical form, evident at a glance when confronting two series, contains single individuals which do not follow the rule, but are intermediate or do not represent the various characters by which the two forms can generally be distinguished. Therefore, though I certainly require that two species should be distinguishable, I do *not* require that each individual of every geographical form ("subspecies") should at once be distinguished. If thirty specimens of a British bird are distinguishable from thirty from the Continent of Europe and one is not, then I must recognise the two forms as subspecies. The one which does not follow the rule may be intermediate or aberrant, though generally it may only be a straggler from the other country, but it cannot give us the right to overlook the fact that there are two different forms.—*Sine ira* !

XLI.—*Note on* Tanysiptera dea.

By Count T. Salvadori, F.M.Z.S.

Mr. Otto Kleinschmidt, in a very curious paper on the "Ornis von Marburg an der Lahn" (Journ. f. Orn. 1903, pp. 440–507) has already shewn (p. 461) a strong case of the inconvenience of going back in nomenclature to the tenth edition of Linné's 'Systema Naturæ' (1758). In the edition of 1758 the description of *Turdus iliacus* (p. 168) is that which fits *T. musicus* (*alis subtus flavescentibus . . . linea nulla superciliorum alba*), while the description of *Turdus musicus* (p. 169) is evidently the one which fits *T. iliacus* (*alis subtus ferrugineis, linea superciliorum albicante*). Linné, in the twelfth edition of the 'Systema Naturæ,' corrected the mistake that he had made in the tenth edition, and *T. iliacus* is there described as follows:—"*alis subtus ferrugineis, superciliis albicantibus*"; while the description of *T. musicus* runs as follows:—"*remigibus basi interiore ferrugineis,*" and there is no mention whatever of a superciliary whitish stripe.

I should much like to know whether the supporters of Linné's tenth edition will follow it out and use *T. musicus* for the Redwing and *T. iliacus* for the Song-Thrush *. As for using the names *Turdus bragi* for the Song-Thrush and *Turdus borealis* for the Redwing, as suggested by Mr. Kleinschmidt (*l. c.*), I can only express the hope that the proposal will be considered utterly destitute of good sense.

There is another obvious instance of the inconvenience of using the tenth edition of Linné's 'Systema Naturæ' instead of the twelfth, to which I will now advert. Dr. Hartert, in 'Novitates Zoologicæ' (x. p. 48, 1903), has proposed to discard the good old name "*Tanysiptera dea* (Linn.)," which, as he admits, I have shewn (Orn. Pap. e Mol. i. p. 435) must be used for the species of the genus *Tanysiptera* that lives in Amboina and Ceram. Linné's *Alcedo dea* (Syst. Nat. 1766, p. 181) was established on the *Ispida ternatana* of Brisson (Orn. iv. p. 525, t. 40. f. 2), which is unmistakably the Amboina and Ceram bird. Brisson also quotes Seba, tab. xlvi. f. 3, which belongs to the same bird. This is quite simple and clear. But now comes Dr. Hartert, who says, "We now begin our nomenclature in 1758 with the tenth edition of Linnæus," and in 1758 *Alcedo dea* was based on Edwards's pl. x., which is a *Galbula*. This, however, is not quite exact. Linné, in the tenth edition of his 'Systema,' gave a description which, I admit, refers to the bird that we now call *Urogalba paradisea* (the reference Edwards, Av. x. t. 10, also belongs to *U. paradisea*), but Linné, though with a query, quotes also Seba's plate, which is that of *T. dea*. So that *Alcedo dea* of the tenth edition is a compound of *Urogalba paradisea* and *Tanysiptera dea*. Later on, in the twelfth edition, Linné, having recognised the mistake made in the tenth edition, distinguished the two birds. He left the name "*Alcedo dea*" to the bird described and figured by Seba and Brisson, and gave the new name "*Alcedo paradisea*" to the bird described and figured by Edwards, and later on by Brisson, which has now become the type of the genus *Urogalba*. What law prevents us from accepting the correction made by Linné? I think that nobody will deny that Linné had the right of discriminating the two birds, which he had previously confounded together. To the first description of *Alcedo dea*, contained in the tenth edition, Linné in the twelfth added the words "*rectricibus medio attenuatis*," thus pointing out a very good character to distinguish *Alcedo dea* from *Alcedo paradisea*. I am of opinion that it is much more simple and natural to accept the correction made by Linné in his twelfth edition, than to go rambling about in search of another name and rejecting the well-known and long-established name *Tanysiptera dea* for the species which inhabits Ceram and Amboina.

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* This paper was written before the issue of the July number of the 'Ibis,' where (pp. 431, 432) my friend Dr. Hartert has very boldly used *Turdus musicus* for the Redwing and *Turdus iliacus* for the Song-Thrush. I must say that if the practice of beginning our nomenclature from the tenth edition of the 'Systema' is to have the consequence of upsetting the names of some of the best-known species of birds, we must give up in despair any expectation of stability in our nomenclature. In this particular case Dr. Hartert ought not to have ignored the fact that the correction of the mistake which occurred in the tenth edition was made by Linné himself in the twelfth. Dr. Hartert says that "unfortunately the two names have since [Linné's tenth edition] been reversed, and that it is time that this old error should be rectified and the names used in their original sense." I should rather say that fortunately the two names have been reversed by Linné himself in the twelfth edition according to their real meaning, and that the correction of the mistake should be accepted in accordance with Linné's intention. If Dr. Hartert made a mistake in a paper in the 'Novitates Zoologicæ,' and corrected it in a subsequent number, would he like to be held to his former error? or would it be reasonable to do so?

But another difficulty presents itself. The type of the genus *Tanysiptera* of Vigors was "*Alcedo dea* Linn.," but if we discard this name on the pretence that *Alcedo dea* of the tenth edition of the 'Systema' is a *Galbula*, what species must we accept as the type of the genus? I suppose that the new school of Ornithologists will say that the type-species is "*Alcedo dea* Linn." ed. xii. nec ed. x. Having discarded *T. dea* as the proper name of the typical species of the genus *Tanysiptera,* and using trinomials for all the white-bellied species of the genus, Dr. Hartert has considered them all as subspecies of *T. hydrocharis* from the Aru Islands *, this having been the first species of the genus described after Linné. I am, however, of opinion that this proceeding is not right or natural. *T. hydrocharis* differs from all the other white-bellied species of the genus in having the lateral tail-feathers black, tinged above with deep blue, and resembling in that respect *T. nympha, T. danaë, T. sylvia, T. salvadoriana,* and *T. nigriceps,* which form a distinct group of the genus. For this group Heine has even proposed a new generic name *Uralcyon* (J. f. O. 1859, p. 406). According to my views, *T. hydrocharis* is a perfectly distinct species, and by no means a conspecies, and is much more nearly allied to the group formed by the above-mentioned species than to the group having the lateral tail-feathers entirely or mostly white. The division of the genus *Tanysiptera,* as proposed by me (Orn. Pap. e Mol. i. p. 424), into two groups—(i.) *rectricibus lateralibus magna ex parte albis*; (ii.) *rectricibus lateralibus fusco-nigris, superne cæruleis*—still appears to me to be the most natural, and *T. hydrocharis* should be included in the second group. It follows that trinomialists cannot take *T. hydrocharis* as the typical form of the white-bellied group of species, but will have to choose some other species and use a different name. I strongly advise them to go back to our old friend *Tanysiptera dea*!

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* Mr. Hartert seems to ignore the fact that *T. hydrocharis* is also found in Southern New Guinea on the Fly River (*cf.* Orn. Pap. e Mol. i. pp. 456–457).

XLII.—*On a Collection of Birds made during the Cruise of the 'Valhalla,' R.Y.S., in the West Indies* (1903–4). By M. J. Nicoll, M.B.O.U.

(Plate XI.)

Last autumn the Earl of Crawford kindly invited me to accompany him again as Naturalist during his winter-cruise; and on December 18th, 1903, we sailed from Cowes for Madeira, *en route* for the West Indies. The only birds seen in the "Bay" were Kittiwakes (*Rissa tridactyla*). It is curious that out of the numbers of these Gulls observed a very small percentage only were in immature plumage. Last year (1902), in November, I saw numbers of Great Shearwaters (*Puffinus gravis*) about the Bay; but this year there were none at all. On December 24th we anchored at Funchal, Madeira. We obtained permission from the Governor to collect birds, and the next day we went up into the high fir-woods. I obtained specimens of the following species, all of which I shot at an altitude of above 2000 feet:—

Sylvia conspicillata.
Erithacus rubecula.
Regulus maderensis.
Motacilla melanope.
Anthus bertheloti.
Fringilla maderensis.

The Madeiran Robin resembles our bird in plumage, habits, and song. I cannot see the slightest character by which it could be separated, even as a subspecies, from our English Robin. I shot one example by the roadside, close to the Belmonte Hotel. I saw others at an altitude of 4000 feet and close to Funchal.

At an altitude of 4000 feet I found *Anthus bertheloti* abundant in a clearing. In spite of what has been stated to the contrary, I saw several soaring and singing, like our Meadow- and Tree-Pipits.

Examples of Berthelot's Pipit from Madeira and Tenerife are browner than those from Gran Canaria.

The native Chaffinch is common in the island, especially at an altitude of 2000 feet, near the Hotel. I also saw one in Funchal. I was much struck with its note, which, instead of being a clear "*spink-spink*" like that of our Chaffinch, is a loud ringing laugh somewhat resembling that of our Green Woodpecker.

On December 27th we left Madeira for Tenerife, and next day anchored at Santa Cruz. The following day we drove out to Orotava. Along the road I saw and obtained specimens of the following six birds:—

Phylloscopus fortunatus.
Sylvia atricapilla.
Parus teneriffæ.
Serinus canarius.
Anthus bertheloti.
Upupa epops.

Phylloscopus fortunatus is very common at Tenerife, and has a somewhat different note from that of our bird. The Canarian Chiffchaff is, in my opinion, a perfectly good species.

On January 1st, 1904, we left Tenerife for Barbadoes, and entered Bridgetown Harbour on January 15th. The island of Barbadoes is entirely cultivated for sugar-cane, and consequently birds are not abundant; but I was much pleased to meet with several of the peculiar species. Close to the town there are a few trees along the shore, and in this place, as well as in a large garden belonging to the Harbour Master, I did all my collecting during our short stay in the island.

I obtained examples of eight species of birds at Barbadoes.

DENDRŒCA CAPITALIS Lawr.

Dendrœca capitalis Cory, B. W. I. (1889) p. 45.

This beautiful little "Golden Warbler" is by no means uncommon on the island. I obtained five specimens. One immature male has pale reddish markings on the breast, but no chestnut cap.

CERTHIOLA BARBADENSIS Baird.

Certhiola barbadensis Cory, B. W. I. p. 66.

The Barbadoes Honey-creeper is plentiful on the island, but is not always easy to find, as its note (which rather resembles that of our *Locustella nævia*) is somewhat similar to the song of *Euethia bicolor*, which is also a most abundant bird. The song is nearly always uttered from the top of a tree, and owing to the thick foliage the birds succeed in hiding themselves very securely.

I obtained seven specimens, two of which are quite immature. A more adult bird has a yellow superciliary stripe, in common with the young. The adult has this stripe pure white. Younger examples have also a more ashy back.

The Honey-creeper feeds on small insects, which it obtains by pecking a hole in the side of the flowers of *Hibiscus* and other plants. It extracts the insects with its barbed extensile tongue.

EUETHIA BICOLOR (Linn.).

Euetheia bicolor Cory, B. W. I. p. 96.

This little Finch is common. Its nest is a domed structure placed in the top of a thick bush. I found several and took seven eggs. Three seems to be the full number in a clutch. I shot two examples of this bird in Barbadoes.

QUISCALUS FORTIROSTRIS Lawr.

Quiscalus fortirostris Cory, B. W. I. p. 110.

This is by far the most abundant bird on the island. Towards evening flocks gather together and repair to the grass in the fields near the town, when they somewhat resemble Starlings in their actions.

This bird has a variety of notes; the one most used is a Woodpecker-like laugh.

As I shall refer to several other species of the genus in the course of this paper, I may as well now describe the curious flight of these birds. The tail is always carried in a peculiar way: it is folded, as it were, down the centre, so that when it is viewed from behind the tips of the rectrices form a V—that is, the central pair are the keel, and the outer pair form the top of the figure. When the bird flies, and wishes to change its course, the tail is (to use a nautical term) "put over" and acts as a rudder. All the members of this genus that I met with had this curious habit, and the birds from Jamaica and Grand Cayman kept their tails in this formation after the skins were dried. Hence comes the name "Boat-tailed" Grackle applied to some of them.

ELAINEA MARTINICA (Linn.).

Elainea martinica Cory, B. W. I. p. 117.

Elainea barbadensis Cory, B. W. I. p. 292.

I obtained a pair of these birds at Barbadoes, but I can see no character by which this species can be separated from *Elainea martinica*. Cory says that it is larger and darker than *E. martinica*; but the largest and darkest that I obtained in any of the islands was in Martinique.

This species is not very common; it seems to be restricted to the gardens near the town.

EULAMPIS HOLOSERICEUS (Linn.).

Eulampis holosericeus Cory, B. W. I. p. 146.

I shot a pair of these Humming-birds at Barbadoes; they were breeding at the time of our visit. They have a habit of sitting on the telegraph- or telephone-wires along the roadside, which makes them look like diminutive Swallows.

I subsequently obtained many examples of this species at other of the West-Indian Islands; and I find that those from Barbadoes, St. Vincent, St. Lucia, St. Thomas, and Nevis have a larger patch of blue on the chest, and have the upper parts greener and not so much bronzed as those from the other islands.

LOXIGILLA BARBADENSIS Cory.

Loxigilla barbadensis Cory, B. W. I. p. 290.

This species is peculiar to the island of Barbadoes. Both sexes nearly resemble the female of *L. noctis*. I found a nest, domed, and placed on the fork of a small tree. I shot three examples.

TOTANUS MACULARIUS (Linn.).

Actitis macularia Cory, B. W. I. p. 239.

The Spotted Sandpiper is common in Barbadoes in winter and very tame. I shot two examples on the shore close to Bridgetown; they were in full winter plumage.

This species has a paler bill and *yellower* legs than our

Common Sandpiper, which it much resembles; there are also a few indistinct black spots on the crissum, even in young birds.

On January 21st we left Barbadoes for Santa Lucia, where we anchored next day.

Santa Lucia is a magnificent island, with high peaks and thickly wooded; to my mind, it is one of the most beautiful of the West-Indian Islands.

As we paid two visits to St. Lucia (January 22nd to 25th and February 2nd to 5th), I will now give a complete list of the fifteen birds that I met with during the two visits.

We were told that the much-dreaded snake, the "Fer-de-lance" (*Lachesis lanceolatus*), is now nearly extinct in St. Lucia, having been killed off by the imported mongooses. This is the only good that can possibly be attributed to a most destructive mammal, which will in a very few years completely exterminate several interesting birds, if it has not already done so.

MARGAROPS MONTANUS (Lafr.).

Margarops montanus Cory, B. W. I. p. 29.

I shot two examples of this species in St. Lucia. It is very shy; its flight and movements are decidedly Thrush-like.

Iris pale orange; bill black; tarsi and toes brown.

DENDRŒCA DELICATA (Ridgw.).

Dendroica adelaidæ delicata Cory, B. W. I. p. 51.

This beautiful little Warbler does not appear to be very abundant. It is very shy, especially if aware that it is being watched or pursued. I had some difficulty in procuring my five examples. Its song much resembles that of a Wren, but is softer. I shot all my specimens in the mangrove-trees which bordered a stream some little way inland. In its actions this species reminded me of a Willow-Warbler, being constantly on the move.

SETOPHAGA RUTICILLA (Linn.).

Setophaga ruticilla Cory, B. W. I. p. 60.

The North-American "Redstart" is not uncommon at

St. Lucia in January and February. I shot three adult males. It is a lively little bird, constantly opening its wings and flicking its tail, when the scarlet bands on the wings are seen to advantage.

CERTHIOLA MARTINICANA Reich.

Certhiola martinicana Cory, B. W. I. p. 66.

This Honey-creeper is to be seen almost everywhere near the town of Castries, and I found it common in the woods further inland. I obtained five examples, several of which had yellow superciliaries. This is a sign of immaturity, as is the case in all the Honey-creepers. Its note and habits resembled those of *C. barbadensis*. I found a pair building a large domed nest in a bunch of leaves on the end of a branch of a mango-tree.

VIREO CALIDRIS (Linn.).

Vireo calidris Cory, B. W. I. p. 76.

This Greenlet was not abundant. I shot two specimens. It keeps to the tall trees in the thick woods, and might easily pass unnoticed were it not for its rich song. The examples obtained had darker crowns than specimens in the British Museum from Florida. This is probably *Vireo calidris barbadensis* of Lawrence.

SALTATOR GUADELOUPENSIS Lafr.

Saltator guadeloupensis Cory, B. W. I. p. 88.

This curious bird was met with only twice at St. Lucia. It has a curious habit of bowing or bobbing up and down when alarmed, whence the name *Saltator* was probably derived. I shot two examples, both males.

LOXIGILLA NOCTIS (Linn.).

Loxigilla noctis Cory, B. W. I. p. 91.

This handsome Finch is common at St. Lucia, but is very shy, keeping as much as possible to the undergrowth. I frequently found it eating the bits of chewed sugar-cane dropped by the natives in the road. I met with this species in several of the other islands, and from St. Lucia and Dominica I got a fair series in all stages of plumage.

Loxigilla noctis sclateri of Allen is, to my mind, not a good species, but merely a *really* adult *L. noctis*. The young male in its first plumage has the throat, breast, and abdomen greyish, the back brownish, and the under-tail-coverts chestnut. Later the feathers of the throat become chestnut by *colour-change*; the greyish abdomen becomes black by the same process, as does the rest of the plumage. As the bird becomes older, the red under-tail-coverts are suffused with black, still by the same colour-change, and the throat becomes a deeper chestnut. This continues until the under-tail-coverts are black with only the faintest tinge of chestnut on the tips, and finally become wholly black. Then the bird is in fully adult plumage. I obtained seven males and one female of this species in various plumages.

EUETHIA BICOLOR (Linn.).

Euetheia bicolor Cory, B. W. I. p. 96.

This Finch is common and was, I believe, breeding at the time of our visit.

ICTERUS LAUDABILIS Scl.

Icterus laudabilis Cory, B. W. I. p. 104.

I shot a single adult female of this species, which is peculiar to the island of St. Lucia. I observed two pairs, but they were very shy, and I saw nothing of their habits.

QUISCALUS INFLEXIROSTRIS Swains.

Quiscalus inflexirostris Cory, B. W. I. p. 111.

This species does not seem at all abundant in St. Lucia. I met with it only near the town of Castries, where I shot an adult male. The female is greyer, as are also the young. This bird is exceedingly noisy and inquisitive. Iris pale yellow; bill, tarsi, and toes black.

ELAINEA MARTINICA (Linn.).

Elainea martinica Cory, B. W. I. p. 117.

This Tyrant is common in St. Lucia, as it seems to be in all the West-Indian Islands.

TYRANNUS ROSTRATUS Scl.

Tyrannus rostratus Cory, B. W. I. p. 129.

This Tyrant was abundant in St. Lucia. It is usually to be seen sitting motionless on a bare branch, now and then flying to the ground to pick up an insect.

EULAMPIS JUGULARIS (Linn.).

Eulampis jugularis Cory, B. W. I. p. 145.

This fine Humming-bird is very abundant in St. Lucia. I shot three examples, and subsequently met with it again in several of the other islands. The flight of this bird resembles that of most of the other members of the group, but I noticed that all the Humming-birds in the West Indies seem more addicted to perching than those that I met with in South America last year. They are all extremely tame.

EULAMPIS HOLOSERICEUS (Linn.).

Eulampis holosericeus Cory, B. W. I. p. 146.

This species is not so common at St. Lucia as *E. jugularis*. Its habits are similar.

BELLONA EXILIS (Gmel.).

Bellona exilis Cory, B. W. I. p. 152.

I shot several examples of this Humming-bird in St. Lucia. Cory does not mention St. Lucia as within the range of this species, but gives the island as one of the habitats of *Bellona cristata*, a perfectly distinct form. I feel sure that the latter bird does not occur at St. Lucia, and I met with it only in Grenada.

Bellona exilis is abundant and very tame in St. Lucia. One individual several times perched almost within reach of my hand. I fancy that the bird was nesting at the time of our visit, as I seldom saw the female, of which I obtained only one specimen.

On January 25th we left Santa Lucia for St. Vincent, where we anchored the same day. As we spent only one day at St. Vincent and birds were very scarce, I did very little in the way of collecting. The Administrator told us that an American, Mr. Clarke, was then collecting birds on the island. Since I came home I have seen Mr. Clarke's list of birds from this island in the 'West Indian Bulletin.' By his report I observe that he got examples of the St. Vincent Parrot, *Chrysotis guildingi*. Surely it is time to take strong measures to protect this magnificent bird from further destruction. It is now confined to the highest peaks of the island.

In St. Vincent I obtained three specimens only of a single species, *Certhiola atrata*, which is very abundant there. Examples of this bird from St. Vincent have a less yellow tinge on the abdomen and larger bills than those from Grenada, which have been lately separated by Mr. Ridgway as *Cœreba wellsi* (B. N. A. ii. p. 423), but there are intermediate examples in the British Museum.

We left St. Vincent on January 27th for Carriacou, one of the Grenadines, where we arrived the same evening. Between St. Vincent and Carriacou I saw a Skua (*Stercorarius crepidatus*); this is, I believe, the second recorded from the West Indies. As we did not get to Carriacou till late in the afternoon and left early the next morning, I only had time to visit a small island in the middle of the harbour, on which I had heard that Pelicans (*Pelecanus fuscus*) roosted. Besides the Pelicans, I obtained there specimens of *Zenaida aurita* (Temm.) and *Ægialitis semipalmata* (Bp.).

On January 28th we left Carriacou for Grenada, where we anchored the same day. On our arrival we were told that Sir Frederick Johnston's yacht 'Emerald,' with Dr. Bowdler Sharpe on board, had been at Grenada about three weeks before us. From St. George's, the capital, we drove up to a volcanic lake called "Grand Étang," about 2000 feet above sea-level. In the thick woods round this lake were numbers of birds, but owing to the height of the trees they were difficult to reach. Here I shot an opossum (*Didelphys*). This is the mammal which, having been introduced into Dominica and Guadeloupe, is said to have completely destroyed the now nearly extinct Petrel (*Œstrelata hæsitata*). I collected examples of the following twelve birds in Grenada:—

VIREO LAURÆ. (Plate XI. fig. 2.)

Vireo lauræ Nicoll, Bull. B. O. C. vol. xiv. p. 95 (June 15th, 1904).

This Greenlet, of which I obtained an adult male at Grand

Étang, Grenada, is somewhat similar to *Vireo calidris,* but is much smaller and of more intense coloration. In plumage it is almost as brightly coloured as *V. olivaceus. Vireo lauræ* also differs from *V. calidris* in having no buff wash of colour on the face, in which respect it appears to resemble *V. calidris barbadensis* Ridgway. I have never seen a specimen of this species from Barbadoes; but from Ridgway's description it appears to be almost intermediate between *Vireo calidris* and *V. lauræ* as regards the coloration of the head. I have seen specimens of *Vireo calidris* from Grenada, and have shot others in St. Lucia.

My type of *V. lauræ* differs from *V. calidris* in being much smaller, having a much more slender bill, and being altogether more washed with green. It has also yellower under-wing-coverts and crissum, and a very much darker crown, which is almost slaty-blue. *Vireo lauræ* has the second and fourth primaries equal, and the first much shorter than the fifth.

Dr. Sharpe obtained two examples of this new species at Grenada, and I have examined five or six specimens in the British Museum from the same island. I have therefore not the slightest hesitation in separating it as distinct.

This *Vireo* is fairly abundant in the high wood at Grand Étang. Its song, which somewhat resembles that of the Blackcap (*Sylvia atricapilla*), is constantly heard, but the bird seems to keep out of sight in the foliage. I was told that this species is resident at Grenada. I have named it in honour of Laura, Countess of Wilton.

TURDUS NIGRIROSTRIS Lawr.

Merula nigrirostris Cory, Cat. B. W. I. p. 122 (1892).

Turdus nigrirostris, Seebohm, Cat. B. v. p. 218; Seeb. & Sharpe, Mon. Turd. i. p. 253.

I shot three examples of this fine Thrush at Grand Étang, one male and two females. They appeared in small flocks at the outskirts of the forest towards evening. A native told me that he did not know the species; the only "*Grive*" which he had seen was one with a bare patch round the eye. This would probably be *Turdus gymnophthalmus.* Cory does not give Grenada as a locality for this species in his 'Birds of the West Indies,' but adds it in his Catalogue of 1892. It was first described from a specimen shot in St. Vincent. There are no examples of this species in the British Museum except those which I have obtained.

MIMUS GILVUS (Vieill.).

Mimus gilvus Cory, B. W. I. p. 34.

The Mocking-bird is common at Grenada, especially in the Botanical Gardens in the town (St. George's). Its song resembles that of our Blackbird, and, like that species, it usually sings from the top of a tree.

TYRANNUS ROSTRATUS Scl.

Tyrannus rostratus Cory, B. W. I. p. 129.

This Tyrant was numerous at Grand Étang.

GLAUCIS HIRSUTA (Gmel.).

Glaucis hirsuta Cory, B. W. I. p. 142.

One female. Iris pale red; bill black above, yellowish below; tarsi and toes orange.

This species was only observed at Grand Étang, where I shot a single specimen. I noticed several flying round a house there, and taking insects from the cracks in the wooden walls. In the thick woods I saw others feeding round the trunks of trees, but I did not observe any of them feeding at the flowers. They make a very loud humming with their wings, which can be heard at some little distance.

COCCYZUS MINOR (Gmel.).

Coccyzus minor Cory, B. W. I. p. 160.

I think that examples of this species from the southern islands of the Lesser Antilles are larger and darker than those from further north. I have been carefully through the large series in the British Museum, and find that my example is hardly to be distinguished from *Coccyzus dominicæ* (Shelley, Cat. xix. p. 306), as is also the case with an example in the British Museum from Montserrat. Specimens from St. Vincent are apparently intermediate between *C. minor* and *C. maynardi*.

EUETHIA BICOLOR (Linn.).

Euetheia bicolor Cory, B. W. I. p. 96.

This Finch is abundant and resident in Grenada.

BELLONA CRISTATA (Linn.).

Bellona cristata Cory, B. W. I. p. 151.

This beautiful little Humming-bird is to be found in abundance everywhere, from the town of St. George to the Grand Étang at an elevation of 2000 feet. I collected five specimens.

COLUMBA SQUAMOSA.

Columba squamosa Salvad. Cat. xxi. p. 280.

Columba corensis Cory, B. W. I. p. 210.

This fine Pigeon is abundant in the high woods of Grenada. I obtained three examples at Grand Étang. They feed on the large date-shaped seeds of a palm. They are exceedingly wary. I was told that during the eruption of the Soufrière at St. Vincent enormous flocks of these Pigeons arrived at Grenada and stopped for some weeks, and then disappeared. The note of this species is a harsh "coo."

CALLISTE CUCULLATA (Swains.).

Calliste cucullata Cory, B. W. I. p. 289.

I found this Tanager very abundant at Grand Étang, where it seems to resort to the woods. Its native name there is the "Blue-bird."

ELAINEA PAGANA (Licht.).

Elainea pagana Cory, B. W. I. p. 292.

This species is, I believe, fairly abundant in Grenada, but I did not see many examples. I shot one only; it differs from *Elainea martinica* in having more yellow on the abdomen, yellower under wing-coverts, and a darker mantle and crown.

MYIARCHUS TYRANNULUS.

Myiarchus tyrannulus Scl. Cat. xiv. p. 251.

Cory does not mention this species in his 'Birds of the West Indies,' but gives *M. oberi* as occurring in Grenada. The latter species may be found there, but *M. tyrannulus* is entirely different, having the under wing-coverts and abdomen much more yellow than in *Myiarchus oberi*. The example obtained was the only one seen.

We left Grenada on February 1st for St. Vincent, where we anchored for the night. Early next morning we sailed for Santa Lucia again. The birds collected during this visit I have united with those obtained at the time of our first visit.

On February 5th we left Santa Lucia for Martinique, where we spent the next day. I obtained permission to collect, but found birds very scarce. Nearly all the island has been cleared and cultivated. I only obtained examples of the following three species:—

EUETHIA BICOLOR (Linn.).

Euetheia bicolor Cory, B. W. I. p. 96.

This is the commonest bird in Martinique; I shot two examples. Individuals vary considerably in the amount of black on the breast, but I think that this is chiefly due to age. I noticed the same fact with this species in the other islands.

QUISCALUS INFLEXIROSTRIS Swains.

Quiscalus inflexirostris Cory, B. W. I. p. 111.

I saw a few of these birds amongst some cattle in a field, and obtained a female in grey plumage. I also saw several black males.

ELAINEA MARTINICA (Linn.).

Elainea martinica Cory, B. W. I. p. 117.

The single example obtained (a male) is a remarkably dark bird—the darkest obtained in any of the islands.

On February 7th we left Port de France, Martinique, to visit the ruins of St. Pierre, which was destroyed during the great eruption. They are a most dismal sight, every house being utterly wrecked. One wall of the cathedral is standing, and I saw a *Quiscalus* perched on it. The vegetation is beginning to grow again, and I noticed a small banana-tree. Tropic-birds (*Phaëthon*) were flying high overhead, and I observed a small flock of Finches (*Euethia bicolor*) amongst the ruins.

After spending a couple of hours on shore at St. Pierre, we left Martinique, and the same afternoon (Feb. 7th) anchored in Roseau Harbour, Dominica. Next morning, after having obtained permission from the Administrator, I went out shooting, and obtained on this and the next day examples of the following seventeen species:—

THRYOTHORUS RUFESCENS Lawr.

Thryothorus rufescens Cory, B. W. I. p. 38.

The two shot were the only examples of this species seen. The first was by the roadside, creeping about a bank; the other was found amongst some stones in the lime-groves. I heard no note uttered by either of these birds.

DENDRŒCA RUFICAPILLA (Gmel.).

Dendroica petechia melanoptera Cory, B. W. I. p. 45.

Mr. Ridgway, in his 'Birds of Middle and N. America' (vol. ii. p. 523), has revised the group of Golden Warblers, and has assigned the specific name *ruficapilla*, instead of *melanoptera*, to this species. I have followed his lead throughout (except as regards trinomials), as I have not nearly large enough series of the different species to arrive at any definite conclusions. So far as my experience goes, I find that specimens from different islands often grade into one another, and I venture to say that there have been too many species or subspecies made in this very difficult group.

The present species is fairly numerous amongst the lime-bushes. Its song is pleasant and wren-like. I obtained three specimens.

DENDRŒCA PLUMBEA Lawr.

Dendroica plumbea Cory, B. W. I. p. 54.

I shot a single example of this species by the roadside not far from the Botanical Gardens. It was the only one that I saw. I do not think that it is abundant, at any rate near the coast.

SETOPHAGA RUTICILLA (Linn.).

Setophaga ruticilla Cory, B. W. I. p. 60.

I shot one example of this species, an adult female. I saw several others in a lime-grove.

CERTHIOLA DOMINICANA Taylor.

Certhiola dominicana Cory, B. W. I. p. 65.

The Dominican Honey-creeper is very abundant, especially among the lime-groves. I shot eight specimens. I cannot quite understand Cory's statement in his description of this species, that the superciliary stripe is lacking or extremely indistinct in front of the eye. All my specimens had the eye-stripe very plainly marked from the whitish forehead nearly to the nape.

VIREO CALIDRIS (Linn.).

Vireo calidris Cory, B. W. I. p. 76.

Vireosylvia calidris, var. *dominicana* Lawr., Pr. U.S. Nat. Mus. i. p. 55 (1878).

The two female specimens obtained have the crown coloured as in those from St. Lucia, but differ slightly from them in having buff superciliary stripes and a buffy wash about the face. They were both shot in a grove of lime-trees.

SALTATOR GUADELOUPENSIS Lafr.

Saltator guadeloupensis Cory, B. W. I. p. 88.

This bird was not uncommon in the river-valley. I shot a pair in some lime-bushes.

LOXIGILLA NOCTIS (Linn.).

Loxigilla noctis Cory, B. W. I. p. 91.

This is an abundant species at Dominica; it had apparently finished breeding, and I was able to get a fine series of young birds in several stages of plumage.

EUETHIA BICOLOR (Linn.).

Euetheia bicolor Cory, B. W. I. p. 96.

This bird is numerous in Dominica.

MYIARCHUS OBERI Lawr.

Myiarchus oberi Cory, B. W. I. p. 126.

This species was not uncommon up the river-valley behind the town, about three miles inland. I obtained two examples.

Myiarchus oberi may be distinguished from *M. tyrannulus* by the very much paler yellow of the under wing-coverts and abdomen.

TYRANNUS ROSTRATUS Scl.

Tyrannus rostratus Cory, B. W. I. p. 129.

This Tyrant is fairly numerous in Dominica. I shot a single example, a male.

EULAMPIS JUGULARIS (Linn.).

Eulampis jugularis Cory, B. W. I. p. 145.

This beautiful Humming-bird is very common in Dominica. I noticed a huge tree in flower, which had numbers of Humming-birds of the present species as well as of *Eulampis holosericeus* and *Bellona exilis* feeding in company.

EULAMPIS HOLOSERICEUS (Linn.).

Eulampis holosericeus Cory, B. W. I. p. 146.

This Humming-bird is not so numerous in Dominica as *E. jugularis*, at least I did not find it so. I shot two examples.

BELLONA EXILIS (Gmel.).

Bellona exilis Cory, B. W. I. p. 152.

This bird is very numerous and exceedingly tame. I obtained three specimens.

CHAMÆPELIA PASSERINA (Linn.).

Columbigallina passerina Cory, B. W. I. p. 217.

This Ground-Dove is very numerous in the lime-groves. I shot two females. Cory (Birds of the West Indies, p. 217) says that the sexes are similar, but the females which I shot in the West Indies have no trace of the reddish-purple tinge which is so conspicuous in the male. They also differ considerably from the male in the markings of the throat and fore-neck.

TOTANUS MACULARIUS (Linn.).

Actitis macularia Cory, B. W. I. p. 239.

The Spotted Sandpiper is abundant in Dominica in the winter. I shot a pair of these birds.

BUTORIDES VIRESCENS (Linn.).

Ardea virescens Cory, B. W. I. p. 247.

This handsome little Heron is very common in Dominica. Its cry of alarm is a loud "squawk." I shot two females in some swampy ground by a small river. The dorsal plumes of these two examples are greenish, faintly tipped with "lilac."

On February 10th we left Dominica for Montserrat, which was reached nine hours later. We made a stay of only one day there, so I was not able to get very far from the town, but I obtained examples of the following ten species of birds along the shore at Montserrat, mostly in the thorn-bushes:—

PARULA AMERICANA (Linn.).

Compsothlypis americana Cory, B. W. I. p. 40.

Fairly numerous in the thick bushes along the shore. I shot two examples.

DENDRŒCA RUFICAPILLA (Gmel.).

Dendroica petechia melanoptera Cory, B. W. I. p. 45.

I shot three examples of this bird at Montserrat.

DENDRŒCA DOMINICA (Linn.).

Dendroica dominica Cory, B. W. I. p. 50.

I shot a single example of this species in some thorn-bushes along the shore at Montserrat. This is, I believe, the first record of this bird for the Lesser Antilles.

SETOPHAGA RUTICILLA (Linn.).

Setophaga ruticilla Cory, B. W. I. p. 60.

I saw several examples of this migrant from N. America. I shot one adult female.

CERTHIOLA DOMINICANA Taylor.

Certhiola dominicana Cory, B. W. I. p. 65.

This species is numerous at Montserrat: there seems to be no difference between specimens from Montserrat and Dominica.

EUETHIA BICOLOR (Linn.).

Euetheia bicolor Cory, B. W. I. p. 96.

A very abundant species in Montserrat. I shot a pair on the shore.

ELAINEA MARTINICA (Linn.).

Elainea martinica Cory, B. W. I. p. 117.

I saw several examples of this species at Montserrat, and obtained one specimen.

CERYLE ALCYON (Linn.).

Ceryle alcyon Cory, B. W. I. p. 163.

I shot a single female specimen of this North-American Kingfisher on the shore at Montserrat.

FALCO CARIBBÆARUM Gmel.

Falco caribbæarum Cory, B. W. I. p. 204.

I shot three examples of this handsome little Kestrel, one of which was a fine adult male. It was fairly numerous in pairs along the shore.

Cory's description of *F. caribbæarum* is very misleading; he makes no mention of the bluish-slate-coloured upper wing-coverts, and has probably taken his characters from a young specimen or an adult female.

CHAMÆPELIA PASSERINA (Linn.).

Columbigallina passerina Cory, B. W. I. p. 217.

This Ground-Dove is very abundant at Montserrat; I found it in little flocks of six or eight, and shot four specimens.

This species varies considerably in plumage and also in the coloration of the bill; these characters, however, are not constant in any one island, and I have placed all the specimens obtained in the West Indies and Florida under the same name.

We left Montserrat on February 12th, and arrived at St. Kitts the same day.

The Island of St. Christopher (commonly called St. Kitts) has been almost entirely cleared for the cultivation of sugar-cane, and this, coupled with the introduction of the mongoose, has done much to make birds scarce. However, by going three or four miles in the launch and landing on a nearly uninhabited portion of the island, I was able to get some specimens. Pelicans (*Pelecanus fuscus*) were abundant; I saw also a few Terns (*Sterna maxima*) and an Osprey (*Pandion carolinensis*).

I collected examples of the following seven birds at St. Kitts:—

DENDRŒCA BARTHOLEMICA (Sund.).

Dendrœca petechia bartholemica Ridgw. B. N. A. ii. p. 518.

This Warbler is very common amongst the thick bushes on the shore at St. Kitts. I observed that most of those which we shot had a curious disease of the legs and feet, these parts being much enlarged and very rough and scaly.

PARULA AMERICANA (Linn.).

Compsothlypis americana Cory, B. W. I. p. 40.

This migrant from North America was very numerous at St. Kitts during our visit in February. Most of the examples seen were young birds.

CERTHIOLA DOMINICANA Taylor.

Certhiola dominicana Cory, B. W. I. p. 65.

I saw very few Honey-creepers at St. Kitts, and obtained one specimen only.

EUETHIA BICOLOR (Linn.).

Euetheia bicolor Cory, B. W. I. p. 96.

This was the commonest bird seen at St. Kitts.

EULAMPIS HOLOSERICEUS (Linn.).

Eulampis holosericeus Cory, B. W. I. p. 146.

I saw very few Humming-birds at St. Kitts, and obtained only one, an example of this species. This specimen has much less blue on the chest and a more bronzed back than those from Barbadoes, St. Lucia, and St. Vincent.

TRINGA MINUTILLA (Vieill.).

Tringa minutilla Cory, B. W. I. p. 234.

I shot a single example of the American Little Stint by a large pool, not far from the shore. Its note, which resembles the words "*wick-wick*," is uttered on the wing.

PELECANUS FUSCUS Linn.

Pelecanus fuscus Cory, B. W. I. p. 271.

The Brown Pelican is very numerous at St. Kitts. One which I shot was in quite immature plumage, the other was getting the hoary feathers of the adult bird on the mantle and wing-coverts.

On February 15th we left St. Kitts for Antigua, which we reached on the afternoon of the same day. We were not able to enter the harbour, owing to the shallow water over the "bar," and as we had to lie two miles off the landing-place, and only spent a day there, I was unable to do any collecting. I met a Mr. Selwyn Branch there, however, who was collecting birds. He had made several collections from different islands for the Tring Museum, and he kindly presented a small collection of the following birds to us:—

Margarops densirostris (*Vieill.*).
Muiotilta varia (*Linn.*).
Dendrœca striata (*Linn.*).
Dendrœca bartholemica (*Sund.*).
Dendrœca discolor (*Vieill.*).
Certhiola dominicana (*Taylor*).
Euphonia flavifrons (*Sparrm.*).
Elainea martinica (*Linn.*).

Mr. Selwyn Branch told me that he had collected birds in Guadeloupe and Dominica, and that an old negro who had been a slave had shown him on the mountains in Guadeloupe the now long-deserted burrows of *Œstrelata hæsitata*, and had told him that he remembered the time when he had taken twenty young in a day by drawing them out of the burrows with an iron hook; he used to eat them. This native further said that they are now never seen there. It is possible that they may still be found in the mountains of Haiti, when that country is in a fit state to be properly explored.

After leaving Antigua and calling again for a few hours at St. Kitts, we reached St. Croix on February 19th.

I found birds comparatively scarce at St. Croix (with the exception of *Chamæpelia passerina*), but managed to secure skins of the following eight species:—

MNIOTILTA VARIA (Linn.).

Mniotilta varia Cory, B. W. I. p. 40.

Common in winter at St. Croix. I shot a pair of adult birds.

In its actions this species reminds one of our Creeper (*Certhia*), although it does not climb so much on the tree-trunks as our bird.

PARULA AMERICANA (Linn.).

Compsothlypis americana Cory, B. W. I. p. 40.

This bird was very common at St. Croix. A specimen obtained was an adult male: this was the only adult male of this species that I shot in the West Indies.

DENDRŒCA BARTHOLEMICA (Sund.).

Dendrœca petechia bartholemica Ridgway, Birds N. & Middle America, p. 518.

This was the only example of this species that I saw at St. Croix. It appears to be identical with the birds from St. Kitts.

DENDRŒCA DISCOLOR (Vieill.).

Dendroica discolor Cory, B. W. I. p. 53.

This species is an abundant winter-visitor to St. Croix, and is usually found in the thick undergrowth.

CERTHIOLA NEWTONI Baird.

Certhiola newtoni Cory, B. W. I. p. 65.

This bird is not uncommon, but is difficult to find as it keeps to the thick bush.

TYRANNUS ROSTRATUS Scl.

Tyrannus rostratus Cory, B. W. I. p. 129.

This is one of the commonest birds in St. Croix.

EULAMPIS HOLOSERICEUS (Linn.).

Eulampis holosericeus Cory, B. W. I. p. 146.

This was the only species of Humming-bird met with at St. Croix. It was common there.

CHAMÆPELIA PASSERINA (Linn.).

Columbigallina passerina Cory, B. W. I. p. 217.

This appeared to be the most abundant bird in St. Croix.

On February 21st we left St. Croix for St. Thomas, where we anchored after a few hours' voyage.

I made enquiries of several residents concerning the St. Thomas Parroquet (*Conurus xantholæmus*). Some told me that it was extinct, but one man, a doctor, informed me that he had occasionally seen a few at the eastern end of the island. However, during our short visit I did not meet with it. That it is still to be found there, however, is certain, as Dr. Lowe, of the S.Y. 'Emerald,' shot one from a small flock at the east end of the island a few weeks before our visit. I have had the pleasure of examining this specimen in Dr. Lowe's collection.

I obtained examples of the following species of birds in St. Thomas:—

Parula americana (*Linn.*).
Mniotilta varia (*Linn.*).
Dendrœca bartholemica (*Sund.*).
Dendrœca discolor (*Vieill.*).
Setophaga ruticilla (*Linn.*).
Certhiola portoricensis (*Bryant*).
Euethia bicolor (*Linn.*).
Eulampis holosericeus (*Linn.*).
Coccyzus minor (*Gmel.*).
Chamæpelia passerina (*Linn.*).

We left St. Thomas on February 24th for Porto Rico, where we spent a day at Port Juan, but I had no opportunity of collecting.

On February 26th we left Porto Rico for Jamaica. On the 27th, while passing San Domingo, an example of *Vireo calidris* flew on board, and I shot it with an air-gun. It proved to be a typical *V. calidris* with a strong buff wash over the head; the crown was scarcely grey and much washed with buff.

On February 29th we anchored at Kingston, Jamaica. I was somewhat surprised to find that the island had a decidedly parched appearance, and was not nearly so thickly wooded as are most of the other West-Indian Islands. Black Vultures (*Cathartes atratus*) are abundant in the town.

I visited the Museum belonging to the Agricultural Society, where there is a fair collection of native birds, but they are badly stuffed.

I spent two days in Jamaica, in the woods and mangrove-swamps near Kingston, but did not find birds at all abundant. I obtained examples of the following eighteen species:—

Mimus orpheus (*Linn.*).
Mniotilta varia (*Linn.*).
Dendrœca petechia (*Linn.*).
Dendrœca discolor (*Vieill.*).
Siurus noveboracensis (*Gmel.*).
Setophaga ruticilla (*Linn.*).
Certhiola flaveola (*Linn.*).
Vireo modestus *Scl.*
Quiscalus crassirostris *Swains.*
Pitangus caudifasciatus (*D'Orb.*).
Myiarchus stolidus (*Gosse*).
Mellisuga minima (*Linn.*).
Todus viridis *Linn.*
Tringa minutilla *Vieill.*
Totanus macularius (*Linn.*).
Florida cærulea (*Linn.*).
Hydranassa ruficollis (*Gosse*).
Rallus caribæus (*Ridgw.*).

I append short notes on two of these species:—

Mellisuga minima.—I was much surprised at the extraordinarily loud voice of this tiny Humming-bird. When I first heard it I mistook it for the cry of a Honey-creeper, and I was much astonished when I discovered that it was this minute bird that was giving forth these loud notes while sitting on the top of a sapling.

Todus viridis.—I obtained only two females of this bird, but probably overlooked others, as it sits motionless on a branch, and owing to its green back is difficult to distinguish from the leaves.

We left Jamaica on March 8th for Grand Cayman. The Caymans, which form part of the Colony of Jamaica, consist of three islands—Grand Cayman, Little Cayman, and Cayman Brac. They lie south of Cuba and 200 miles north-west of

Jamaica. They were discovered by Columbus on his return voyage from Porto Bello to Hispaniola (now Hayti), and were named by him "Las Tortugas" on account of the turtles with which the coast then swarmed. The present name is supposed to be derived from "Caiman"—the alligator, which the largest island somewhat resembles in shape when approached from the east.

Grand Cayman is about seven miles from east to west: it is about four miles in breadth at the east end and seven miles at the west. The highest point on the island is only 150 feet above the sea. As regards the flora of these islands, there is a peculiar orchid here which is very abundant. The trees are mahogany, cedars, mangroves which grow to a very fair height, and a few others. The palm called "palm-thatch" grows in great abundance. Its fan-like leaves make excellent thatch, hats, baskets, &c. It grows to a height of about three feet.

As regards the fauna, several species of birds are peculiar, including a Parrot (*Chrysotis caymanensis*). There are, curiously enough, no Humming-birds. The only mammals are introduced rats and mice. There are also some bats, but I saw only one, which I could not secure.

The Cayman Islands have not been worked nearly so thoroughly as the Lesser Antilles. The last collector there was, I believe, Mr. Taylor, of Jamaica, who obtained a set of birds' skins for Mr. Walter Rothschild. One new species (*Melopyrra taylori*) from that collection was described by Dr. Hartert (Nov. Zool. iii. p. 257) in 1896. When we arrived we were told that Dr. Sharpe had been there about three weeks before us in the S.Y. 'Emerald.'

We stayed three days at Grand Cayman, during which time I collected about one hundred birds. I made a two days' trip across the island in quest of the Parrot which breeds only on the north and north-east of it.

For permission to collect birds from the Cayman Islands during the "close-time," and for his kindness in procuring guides for me, I am much indebted to the Commissioner, His Honour Frederick Sheddon Sanguinetti.

I obtained examples of the following twenty-six species of birds on Grand Cayman:—

GALEOSCOPTES CAROLINENSIS (Linn.).

Galeoscoptes carolinensis Cory, B. W. I. p. 32.

This bird is extremely abundant in Grand Cayman. It is usually seen in the evening, when it comes out of the thick undergrowth, where it spends most of the day, or sits in the taller bushes and trees, uttering a harsh croaking note.

One example, a male, has the under-tail-coverts blue-grey, faintly margined with reddish; this may be an immature bird.

MIMUS ORPHEUS (Linn.).

Mimus orpheus Cory, B. W. I. p. 33.

This Mocking-bird is very common, especially near the town, where it breeds in the gardens of the houses. There appears to be no difference between examples from Grand Cayman and Jamaica. Some specimens have no brown on the outer web of the third pair of rectrices, but this character is by no means constant.

DENDRŒCA TIGRINA (Gmel.).

Dendroica tigrina Cory, B. W. I. p. 42.

A pair were shot close to Georgetown, and were the only examples of this species seen. It is a winter visitor from N. America.

DENDRŒCA CORONATA (Linn.).

Dendroica coronata Cory, B. W. I. p. 48.

I found this species very abundant on Grand Cayman. I believe that it is resident and breeds there. I shot five females and one example of uncertain sex. This bird seems equally at home in the woods, where it keeps to the trees, and in the open fields, where it creeps about through the grass like a Pipit.

DENDRŒCA AURICAPILLA Ridgw.

Dendrœca auricapilla Ridgw. Proc. U.S. Nat. Mus. x. 1888, p. 572.

Dendroica aurocapilla Cory, B. W. I. p. 287.

Dendrœca petechia auricapilla Ridgw. Birds N. & Mid. America, ii. p. 517.

This Golden Warbler, which is peculiar to Grand Cayman, is fairly common, especially among the mangroves.

DENDRŒCA VITELLINA Cory.

Dendroica vitellina Cory, Auk, iii. p. 497; id. B. W. I. p. 286; Ridgw. Birds N. & Mid. America, ii. p. 610.

I met with only an adult male of this Warbler, but I have since examined several specimens in Dr. Sharpe's and also in Dr. Lowe's collection made during the visit of S.Y. 'Emerald.' As Cory's description of this bird, which is only found at the Cayman Islands, is not so full as it might be, I append a short note on the plumage of my specimen:—

Upper parts dull green, paler on the rump; superciliary stripes and under parts bright yellow, with a few olive streaks on the sides of the breast and a dark olive patch on the ear-coverts; through the eye an olive streak, which is continued behind the eye; two outer rectrices heavily marked on the terminal portion of the inner webs with white, which is narrower on the third pair. Bill brown; tarsi and toes black. This species somewhat resembles *Dendrœca discolor*, but is larger, less spotted below, and has no chestnut on the mantle.

CERTHIOLA SHARPII Cory.

Certhiola sharpei Cory, Auk, iii. p. 197.

Cœreba sharpei Ridgw. Birds N. Amer. ii. p. 404.

The sides of the base of the bill, as well as the gape, in this species are only faintly rosy, not bright red as in all the other *Certhiolæ* from the West Indies.

This Honey-creeper is by no means uncommon on trees and bushes in Grand Cayman. I saw several young ones just out of the nest, but was unable to shoot them.

VIREO CAYMANENSIS Cory.

Vireo caymanensis Cory, Auk, iv. p. 6; id. B. W. I. p. 288; Nicoll, Bull. B. O. C. vol. xiv. p. 94 (June 15, 1904).

I met with only two examples of this species, which is peculiar to Grand Cayman. They were both shot in mangrove-trees on the N.E. side of the islands, where I was waiting for Parrots. Both my specimens have the crown and mantle much abraded. The song of this bird is very fine and rich, and at once betrays its presence. I was told by a native boy that its local name is "Sweet Bridget," which sound the two opening notes of its song certainly much resemble.

QUISCALUS CAYMANENSIS Cory.

Quiscalus caymanensis Cory, Auk, iii. p. 499; id. B. W. I. p. 291.

Iris white.

This Grackle is common in and peculiar to Grand Cayman. I met with it singly or in pairs on every part of the island that I visited. It is very tame. One specimen is very much smaller than the others, and is greener than the rest, which are of a glossy bluish black; the bill also is very much smaller. As this example is not brown enough for the first plumage, I take it to be a bird of the year after its first moult. Even this does not quite account for its small size, but I cannot believe that there can be two species on one small island.

SIURUS NOVEBORACENSIS (Gmel.).

Seiurus noveboracensis Cory, B. W. I. p. 56.

I shot a single example of this North-American species on Grand Cayman. It was feeding in a belt of mangrove-trees close to the shore, and was the only individual met with there.

EUETHIA OLIVACEA (Gmel.).

Euetheia olivacea Cory, B. W. I. p. 95.

This bird is found in Cuba, Jamaica, San Domingo, and Porto Rico. It does not appear to be numerous on Grand Cayman, although it cannot be called scarce. It seems to prefer gardens and open fields. I found this species very wild, wherein it differs considerably from most of the Cayman birds. I discovered a nest ready for eggs in the thick branches of a small tree; it was domed, and much resembled that of *E. bicolor*.

PASSERCULUS SANDWICHENSIS (Gm.).

Ammodramus sandwichensis savanna Cory, B. W. I. p. 98.

I saw two examples of this species at Grand Cayman. They were in company, so I imagine that they were a pair. They were in a grass-field and were very shy. This bird is probably an occasional migrant to Grand Cayman from Florida. The specimen obtained resembled those from Florida in every particular.

MELOPYRRA TAYLORI Hartert.

Melopyrra taylori Hartert, Nov. Zool. iii. p. 257.

I obtained three examples only of this bird, in the thick wood by the roadside near Newlands. It is nearest to, but perfectly distinct from, *M. nigra* of Cuba.

EMPIDONAX MINIMUS (Baird).

Empidonax minimus Sclater, Cat. Birds B. M. xiv. p. 227; Nicoll, Bull. B. O. C. vol. xiv. p. 95.

I shot a single female example of this little Tyrant on Grand Cayman. It was among some bushes in an open field and was very shy. This is the first recorded occurrence of the species in the West Indies.

Empidonax acadicus has been recorded from Cuba (Cory, B. W. I. p. 121).

ELAINEA MARTINICA (Linn.).

Elainea martinica Cory, B. W. I. p. 117.

This bird is very abundant on Grand Cayman. It does not appear to differ in any respect from examples of *E. martinica* from the other islands.

PITANGUS CAYMANENSIS, sp. nov.

Examples of the *Pitangus* of Grand Cayman, of which I obtained only one female, but of which there are five others in the British Museum, differ so considerably from *Pitangus caudifasciatus* that I have not the least hesitation in separating the species as distinct.

Cap dull brown, concealing a yellow vertical crest; ear-coverts darker brown; nape brownish grey; mantle olive-brown. Upper tail-coverts edged with rufous; tail brown, middle pair of rectrices blackish, a broad basal band of white on the inner webs strongly washed with yellow, tips white, washed with pale rufous. Wing-coverts and secondaries edged with whitish; quills brown. Under parts white, washed with yellow on the flanks and abdomen; crissum, under tail-coverts, edge of wing, under wing-coverts, and axillaries sulphur-yellow.

A *freshly-moulted male* has the mantle olive, and the long secondaries broadly edged with yellowish white.

Total length 8·20 in., wing 4·30, culm. 1·30, tail 3·50, tarsus ·90.

The female is similar but slightly smaller. An *immature male* has a small crest of dull gold; crown dull brown, indistinctly freckled with lighter brown; mantle greyish brown, slightly tinged with olive; wing-coverts and upper tail-coverts edged with rufous; the two central pairs of rectrices tipped with pale rufous; secondaries edged with dull white. Under parts white; under wing-coverts, thighs, and crissum pale sulphur-yellow.

A slightly older bird has some new olive feathers appearing on the mantle and the vertical crest slightly yellower.

Pitangus caymanensis may easily be distinguished from *P. caudifasciatus* by the following characters:—It is larger, and olive on the mantle; has a duller crown, and has the abdomen, crissum, under wing-coverts, and basal band of the tail yellower. I did not find this species at all numerous on Grand Cayman. The individuals that I saw were usually near the mangrove-swamps. It has quite the habits of a Tyrant-bird, sitting on an exposed branch and watching for insects.

MYIARCHUS DENIGRATUS Cory.

Myiarchus denigratus Cory, Auk, iii. p. 500; id. B. W. I. p. 293.

I met with only four examples of this bird, which is peculiar to Grand Cayman; I unfortunately lost one of them. There was previously only one specimen in the British Museum. In its habits it seems to resemble the other species of *Myiarchus.*

CROTOPHAGA ANI Linn.

Crotophaga ani Cory, B. W. I. p. 156.

The Black Ani is a common bird on Grand Cayman, and is usually seen in flocks of about a dozen individuals.

COCCYZUS MAYNARDI Ridgw.

Coccygus maynardi Cory, B. W. I. p. 296.

Only one example of this species was met with. I shot it in a plantation of guavas.

COLAPTES GUNDLACHI Cory.

Colaptes gundlachi Cory, Auk, iii. p. 498; id. B. W. I. p. 175.

I did not meet with this bird on Grand Cayman, but Dr. P. Lowe, of the S.Y. 'Emerald,' gave me two skins. I have compared several specimens of this species, which were collected by Drs. Sharpe and Lowe, with examples of *Colaptes chrysocaulosus* from Cuba, and have come to the conclusion that the characters by which Mr. Cory separated the Cayman bird as a distinct species are constant.

MELANERPES CAYMANENSIS (Cory).

Centurus caymanensis Cory, Auk, iii. p. 499; id. B. W. I. p. 295.

This Woodpecker is fairly numerous and exceedingly tame, so much so that on several occasions I almost touched one with my hand.

I have never met with birds so fearless of man as the majority of the Cayman species.

All my specimens are yellowish brown on the breast and abdomen, and barred above with brownish white and black, as are also the others that I have examined. They are not brownish white on the breast and belly and banded with dull white and black above, as stated by Cory. Two of them are adult.

CHRYSOTIS CAYMANENSIS Cory.

Chrysotis caymanensis Cory, Auk, iii. p. 497; id. B. W. I. p. 297.

During our visit to Grand Cayman this Parrot was breeding, at which time it is only to be found in the tall mangrove-trees in the north and north-east of the island. I was told that after the breeding-season it is to be seen everywhere.

I made a two-days' excursion across the island, and found several pairs in some tall mangroves. They are extremely noisy, and I could hear them screaming long before I got to the trees which they were frequenting. After waiting under cover for some time I got one of my specimens. I afterwards shot a pair sitting in a tree by the roadside. We also brought back a live bird of this species, purchased from a native, which was presented by Lord Crawford to the Zoological Society, and is now in their Gardens. All my specimens have the forehead white tinged with rosy pink, not dull yellowish white as stated by Cory.

So far as I could ascertain, there seems to be no danger of this Parrot becoming extinct for many years.

CHAMÆPELIA PASSERINA (Linn.).

Columbigallina passerina Cory, B. W. I. p. 217.

Columbigallina passerina insularis Ridgway, Proc. U.S. Nat. Mus. p. 574 (1887) ; Cory, B. W. I. p. 297.

In the only example shot I could find no differences to warrant its separation as a distinct species. I have been carefully through the very large series in the British Museum, and find that individuals even from the same island differ as regards the colour of the bill.

This little Ground-Dove does not seem to be so common in Grand Cayman as it is in the other West-Indian Islands.

BUTORIDES VIRESCENS (Linn.).

Ardea virescens Cory, B. W. I. p. 247.

Both the adults obtained differ considerably from those which I shot in Dominica. The dorsal plumes are lavender-grey, and the abdomen is slaty grey instead of reddish, but the chief difference lies in the bill, which in the Cayman specimens is much longer and much more slender, and has only a streak of yellow on the lower mandible, whereas those from Dominica have the whole of the lower mandible yellow. The Cayman bird has also shorter wings.

GALLINULA GALEATA (Licht.).

Gallinula galeata Cory, B. W. I. p. 257.

I saw a few of these Water-hens on a small pond near Newlands, in company with some Herons (*Butorides*).

STREPSILAS INTERPRES (Linn.).

Arenaria interpres Sharpe, Cat. xxiv. p. 92.

I met with a small flock of Turnstones on the shore near Savanna. The specimen obtained was just changing from winter to summer plumage.

On March 13th we left Grand Cayman for Little Cayman, which lies about seventy miles distant in a north-easterly direction. Our chief object in visiting this island was to look for the supposed peculiar Gannet (*Sula coryi*), of which we obtained about forty specimens. I also shot examples of several passerine birds. Amongst these were some of a new species of *Dendrœca*, which I have had the pleasure of naming after Lord Crawford. We anchored at 4 P.M. in Anchorage Bay and at once went ashore. Some natives guided us to the "Gannetry"; they told us that Dr. Sharpe had been there about a fortnight before and had shot several Gannets. We spent about an hour in the "Gannetry," and the next morning we had about three hours ashore. I collected specimens of the following eight species of birds on Little Cayman:—

DENDRŒCA PALMARUM (Gmel.).

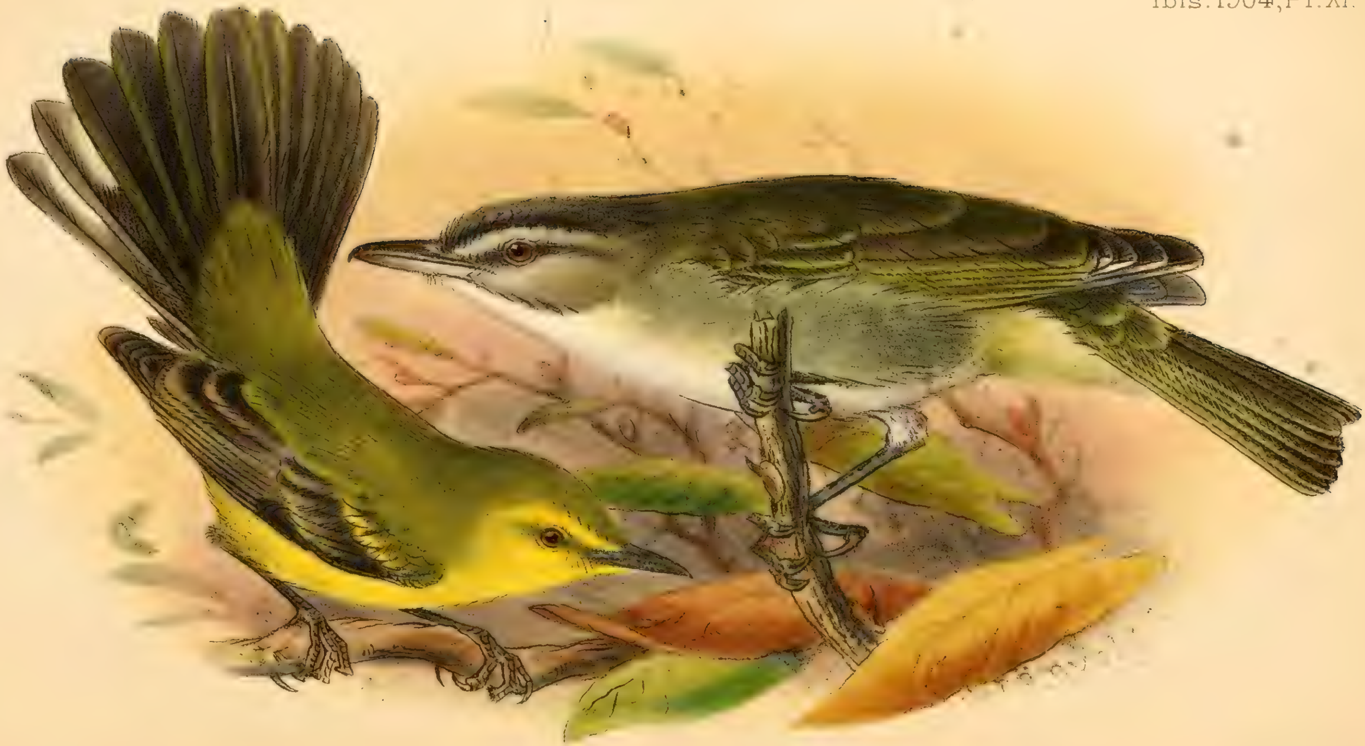
Dendroica palmarum Cory, B. W. I. p. 53.

Only one example of this species was met with on Little Cayman.

DENDRŒCA CRAWFORDI. (Plate XI. fig. 1.)

Dendrœca crawfordi Nicoll, Bull. B. O. C. vol. xiv. p. 95 (June 15, 1904).

I met with only three examples of this Warbler. They were creeping about in some thick undergrowth. It is a near ally of *Dendrœca vitellina*, but a distinctly larger and paler species. It is also without the dark olive patch on the



H.Grönvold del.et lith.

Mintern Bros. imp.

1. DENDRŒCA CRAWFORDI.
2. VIREO LAURÆ.

ear-coverts, and has not the streaks of the same colour on the sides of the breast which are characteristic of *D. vitellina*. Besides, the dark line through the eye is pale and is not continued beyond the eye, and the upper parts are more greenish yellow than in the bird of Grand Cayman. I have also examined a specimen of *Dendrœca crawfordi* which was procured on Cayman Brac by Dr. Sharpe.

CERTHIOLA SHARPII Cory.

Certhiola sharpei Cory, B. W. I. p. 288.

There appears to be no difference between examples of this species from Grand Cayman and Little Cayman. I obtained four examples on Little Cayman. The young birds are greyer on the back than the adults.

QUISCALUS GUNDLACHI Cassin.

Quiscalus gundlachii Cory, B. W. I. p. 113.

This Cuban species is common on Little Cayman, especially near the mangrove-swamp in which the Gannets breed. Iris pale yellow ; bill, tarsi, and toes black.

ELAINEA MARTINICA (Linn.).

Elainea martinica Cory, B. W. I. p. 117.

I saw a few examples of this species on Little Cayman and obtained a female.

ZENAIDA SPADICEA Cory.

Zenaida spadicea Cory, B. W. I. p. 215.

Zenaida richardsoni Cory, Auk, iv. p. 7.

Iris black ; bill black ; tarsi and toes red.

This Dove is usually seen among the mangroves ; I shot my specimens close to the Gannetry. The male is of a deeper rufous colour than the female. I have not been able to compare my skins with examples from Grand Cayman, as there are none from the latter island in the British Museum. Cory has provisionally separated the Little Cayman bird as *Z. richardsoni* (Auk, iv. p. 7, 1887) on the strength of a single specimen, which he says is lighter coloured and has the metallic feathers of the neck somewhat differently coloured, "paler and less in extent." It is possible, I think, that this paler bird may be only a female of *Z. spadicea.*

SULA PISCATOR.

Sula coryi Maynard, Contr. Sci. i. pp. 40, 51, 142 (1889).

Sula piscator Grant, Cat. B. vol. xxvi. p. 432.

At Little Cayman we obtained eight males and three females of this Gannet in the white adult plumage, and fifteen males and eight females in the brown immature dress, besides three nestlings.

The coloration of the soft parts is as follows:—

White adult male.—Iris grey; bill pale lavender-blue, red at base; round the eyes green, eyelid sometimes bluish; gular sac velvety black; tarsi and toes pale red.

White adult female.—Iris grey; bill pale blue, base pink; gular sac grey; round the eyes pale blue; feet pale red. A character of the adult female is the *grey* centre of the gular sac.

Brown-plumaged male.—Iris grey; bill bluish grey, base orange-red; round the eyes greenish blue; gular sac black; feet pale red.

Brown-plumaged female.—Iris grey; bill pale blue, base pink; round the eyes pinkish; gular sac, sides black, centre pinkish grey.

I have compared my specimens with those of *S. piscator* in the British Museum, but I cannot see any constant peculiarity by which *Sula coryi* can be separated, even as a subspecies, from *Sula piscator*. Maynard's coloured figures in his 'Contributions to Science' are totally different, as regards the coloration of the soft parts, both from the Gannets of Little Cayman and from *S. piscator* of other parts of the world. The characters by which *Sula coryi* is said to differ from *S. piscator* are the *black* gular sac, and the white rump, tail, and vent, of the birds in brown plumage after the first moult.

These characters are, however, the same in specimens which I have examined from Mauritius and the S. Pacific. It is true that Cory's Gannet has nearly always a white rump and tail after its first moult, whereas some examples of

S. piscator seem to change from the wholly brown plumage straight into the white adult plumage. I have examined two or three specimens of *Sula piscator* from the Pacific and Atlantic in the brown plumage with white rump, tail, and vent, and found them in all respects similar to the Cayman birds; several of my white specimens from Little Cayman had some brown in the tail. Moreover, I have seen several adult examples of *S. piscator* in the British Museum with *black* gular sacs. This being so, I cannot see any grounds for separating the Cayman Gannet as a distinct species.

I may here make a few remarks on the difference of the coloration of the soft parts in the sexes. I soon found that I could at once tell to which sex any example of this Gannet belonged by the coloration of the gular pouch; that is, in the adult stage and in birds in the brown plumage with white tails, in which latter plumage they also breed.

The males can always be distinguished from the females by their wholly black gular sac. In the female the centre of the sac is pinkish grey. In the white adult plumage the male only has green lores; in the female they are blue. The young in first plumage have the gular sac pinkish. As the bird gets older the sides of the sac become black, which gradually meets in the centre of the chin.

As to the habits of this Gannet, Dr. Sharpe has described them so fully (Bull. B. O. C. xiv. p. 65, 1904) that I have little more to add. At the time of our visit nearly all the eggs contained young, but we obtained two hard-set eggs, which I managed to blow.

FREGATA AQUILA (Linn.).

Fregata aquila Grant, Cat. xxvi. p. 443.

The Larger Frigate-bird was fairly numerous near the Gannetry on Little Cayman.

There seems to be some difference in the size of these birds from different localities. Those I shot at Little Cayman are very large and have very long stout bills, but some in the British Museum from the Atlantic are intermediate in size between this species and *Fregata minor*.

We left Little Cayman on March 14th for Havana, where we anchored on March 17th. I had no opportunities for collecting in Cuba, but I noticed that the European Sparrow (*Passer domesticus*) was very abundant in the city of Havana.

On March 21st we left Havana for Florida.

On March 22nd, a few hours before we sighted the coast of Florida (Charlotte Harbour), two Warblers (*Dendrœca palmarum*) flew on board and were secured. A few hours later we anchored in Charlotte Harbour, where we found the S.Y. 'Emerald' with Sir Frederick Johnston and the Countess of Wilton on board. Dr. Bowdler Sharpe had by that time left the 'Emerald' for England. We remained in Charlotte Harbour till April 4th, Tarpon-fishing, and were very successful. I did a little bird-collecting, and obtained examples of the following species :—

Mimus polyglottus (*Linn.*).
Dendrœca coronata (*Linn.*).
Pipilo alleni *Coues.*
Passerculus sandwichensis (*Gmel.*).
Caprimulgus carolinensis (*Gmel.*).
Falco columbarius *Linn.*
Chamæpelia passerina (*Linn.*).
Melanerpes carolinus (*Linn.*).
Larus argentatus (*Brünn.*).
Hydranassa ruficollis (*Gundl.*).
Pelecanus fuscus *Linn.*

On April 4th we left Charlotte Harbour for Key West, where we stopped for a day to "coal," and then sailed for Bermuda, where we anchored on April 14th.

I could not collect birds at Bermuda, as firing of guns on the islands is forbidden. I found *Passer domesticus* very abundant there.

We left Bermuda on April 20th for St. Michaels, Azores. During the passage I skinned four Tarpons, which we had caught in Florida and frozen. The smallest weighed 34 lbs. and the largest 95 lbs.

On April 29th we anchored at Port Delgada, St. Michaels. I got a few examples of the following species there :—

Sylvia atricapilla (*Linn.*).
Erithacus rubecula (*Linn.*).
Motacilla melanope *Pall.*
Fringilla moreleti *Pucher.*
Carduelis elegans *Steph.*
Serinus canarius (*Linn.*).
Larus cachinnans *Pall.*
Puffinus kuhli (*Boie*).

My specimens of *Erithacus rubecula* from the Azores are slightly smaller and paler than British examples. But the bird appeared to be quite identical in habits with our Redbreast.

We reached Cowes on May 8th, after an absence of nearly five months. During the voyage I had made with my own hands about 500 bird-skins referable to about 120 species, of which three are believed to be new to science. (See Bull. B. O. C. xiv. p. 95, June 15th, 1904.)

In concluding my notes on the birds collected during the cruise, I wish to offer my very best thanks to the Earl of Crawford for his kindness in again taking me with him as Naturalist; also to Mr. C. R. Pawson and Dr. R.C. Macwatters, who accompanied Lord Crawford during the voyage, for the help which they frequently gave me in shooting specimens. I have worked out my collection of birds at the British Museum; and I tender my very best thanks to Dr. Bowdler Sharpe, Mr. W. Ogilvie-Grant, and their excellent assistants Messrs. Chubb, Wells, and Render, for the help which they have given me while doing so.

Lord Crawford has presented this West-Indian collection, as he did that obtained during our former voyage round the World, to the British Museum.

XLIII.—*On further Collections of Birds from the Efulen District of Camaroon, West Africa.* By R. Bowdler Sharpe, LL.D. &c.—Part II.*

(Plate XII.)

In this paper I continue the list of the birds forwarded by Mr. G. L. Bates during the last eighteen months. His collections are of very great importance to science, and I have included in the present memoir some valuable notes which he has sent to me on the *Accipitres* of Efulen and the neighbourhood, thus bringing the record of his collections up to date. It has been a privilege to name several species in honour of this industrious and observant naturalist, whose labours in the cause of science are gratefully acknowledged by zoologists.

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* Continued from p. 106. See also 'Ibis,' 1902, p. 89, for a previous paper on this subject.

Mr. Bates sends me the following notes on the features of the Bulu country and of the Fang country, which lies to the south of it:—

"The most striking feature of this country is the completeness with which the face of the earth is covered by the forest. The only breaks in this forest-covering, apart from those made by clearings for human habitations and farms, are such as are caused by the passage of streams more than fifty feet wide. If they are below that width, the forest meets above them from the two banks and arches over the stream. There are also occasionally large bare rocks or cliffs to be seen. A temporary rent or chasm is also often made in the expanse of tree-tops by the fall of a large tree carrying with it a mass of smaller trees and vines. Except in such places, there is scarcely more light than that of twilight, even on the brightest day. The trees stand so close together that their foliage is blended into one cover, and their stems are like pillars supporting a common roof. But the space near the ground between the tree-stems is also filled with foliage —that of small shrubs and seedling trees, and especially of numberless vines, many bearing thorns, that form a tangled mass hard to penetrate. This tangled growth near the ground becomes less, however, where the mass of tree-tops above is very dense, and is really impenetrable only in old clearings where the large trees have been chopped away in previous years."

"Apart from the German government road, the paths are little better than the trails of animals, and often follow for long distances the beds of streams, which form a natural open way through the undergrowth and vines. People who have travelled over these forest-paths have often remarked on the silence and the absence of signs of animal-life. But though so little is seen or heard of it, animal-life is really abundant, and many a mammal or bird may be passed within a few feet and its presence never be suspected."

"The creatures of the forest form two almost distinct divisions—those which live on the ground, and those which live in the trees. It is as if nature had provided for the beasts and birds in this part of the world a two-storied house. Those on the 'ground-floor' are mainly hoofed animals—small antelopes, wild pigs, &c., which thread their way through the undergrowth and are seldom seen. Many birds also find their food and shelter on or near the ground, and seldom fly into the tree-tops. Such are the Guinea-fowls, the Ground-Doves, and the birds of different kinds called 'Akalat.' The principal inhabitants of the upper 'flat' are monkeys, squirrels, and other tree-climbing mammals, with the big fruit-eating birds, such as the Hornbills, Plantain-eaters, and Parrots—which, by the way, are an exception to the rule that the inhabitants of this forest are silent. All these creatures, and many others, pass their lives in the tree-tops, seldom descending to the ground. Monkeys can travel about everywhere without coming down from the trees, and can cross all except the widest streams on bridges formed by the meeting of the branches."

"In this sea of trees the clearings made by man form but small and scattered islands. The human population of the country is scanty, living in little villages situated far apart through the forest. A small plantation or garden furnishes sufficient food for a village. But it is the fashion to cultivate one patch of ground for a few years only and then to abandon it for another. These abandoned gardens do not go back to forest—at least not for many years,—but are soon taken possession of by a vegetation peculiar to themselves, to which the name of 'bush,' applied in the 'Kroo-boy' English of the coast to the forest, might be more appropriately given. It consists in some places of thickly-growing 'Mejom' (*Amomum* ?) stalks from ten to fifteen feet in height, in other places of small trees or bushes bound together by thorny vines and a long vine-like sedge with cutting-edges. In spots where the ground has been trodden hard the grass comes up. While these patches of old garden-ground form but a small proportion of the entire surface of the country, they are important as having a fauna almost distinct from that of the forest. Many forest-birds and animals are never met with in such places, while many species are confined to them and are never found in the forest. One would no more expect to see a Weaver-bird (*Hyphantornis*) or to hear the cackling of the 'Ôkwal' (*Francolinus squamatus*) in the dense forest than in some other country and climate. The old garden-land seems to have a greater variety and abundance of small birds than the forest."

"One hundred and fifty or two hundred miles from the coast the sort of open growth found in the old gardens is much more extensive, either because a different soil or a scantier rainfall causes ground once cleared of forest to remain so, or because there has been in former years a great population which no longer exists. At that distance towards the interior there are also extensive grassy places. The numerous birds peculiar to the old garden-ground, where it exists in the small patches above described nearer the coast, must have come from the extensive open country farther inland."

"North and south through the Bulu country, parallel with the coast, runs what is sometimes spoken of as a range of mountains. It is not really such, however, but only the broken and hilly district forming the edge of the great plateau of Central Africa. In journeying to the interior from the coast there is a continual ascent in the hilly region; but when the hills are past, instead of a corresponding descent, there is still a slight increase of elevation as the traveller goes eastward. Efulen, fifty miles from the coast, is in the midst of the most rugged hills. Ebolewo'o, a hundred and ten miles from the coast, is in a less hilly country, but the elevation is greater. A few days' journey east of Ebolewo'o there are no hills at all; but the traveller continues to ascend, as is proved by the course of the streams, till he insensibly crosses from the river-basin of the coast to that of the Congo and finds the streams flowing toward the interior. This water-parting is in a level district. The hilly country has been all passed on the upward slope."

"The hills are nowhere high enough to deserve the name of mountains, never reaching a height, I should think, of one thousand feet above the valleys; they are completely covered by forest, except for a few bare cliffs. He who climbs a hill for a view of the country is disappointed, as he can find no opening through which to see out. Along the sides of the hills, under the trees, are many large scattered rocks, with holes and small caves among and under them, where porcupines hide, bats hang, and Swallows and Bare-headed Crows (*Picathartes*) make their nests of mud."

"This country is full of streams and has an abundant rainfall. Most of the rain falls in the months nearest the two equinoxes—that is, in the spring and autumn of temperate climates. The months of our summer and winter are the dry seasons near the equator. Thus each year has two parts, consisting of a wet and a dry season. Two crops are raised in the native gardens, each planted in a wet and harvested in a dry season. The rainy season, being that when the sun comes directly overhead, is also that of the hottest sunshine. In the dry season much of the weather is cloudy and misty."

"Contrary to what one might expect, the climate here is not extremely hot. This may be due to the cooling effect of the vast amount of green foliage. The heat of the sunshine is often intense, but the shade of the forest is always comfortably cool, and the year contains probably more cloudy or misty than sunny days."

In this paper I have added to the list the specimens sent by Mr. Bates since my last essay on his collections was issued, and I have referred to the following two papers on the birds of the Camaroon:—

Sjöstedt, Yngve.—"Zur Ornithologie Kameruns nebst einigen Angaben über die Säugethiere des Landes." K. Svensk. Vet.-Akad. Handl. xxvii. p. 1.

Reichenow, A.—"Zur Vogelfauna von Kamerun." J. f. O. 1894, p. 29.

1. STREPTOPELIA SEMITORQUATA.

Streptopelia semitorquata (Rüpp.); Sharpe, Hand-l. i. p. 78 (1899).

Turtur semitorquatus Rüpp.; Sjöstedt, K. Vet.-Akad. Handl. Stockh. xxvii. p. 36 (1895); Reichenow, Vög. Afrikas, i. p. 409 (1901).

No. 349. ♂ juv. River Ja, Jan. 11, 1904. "Zum."

A young bird, with rusty edges to the wing-coverts and quills; the bulk of the feathers on the chest are also rusty brown.

2. CALOPELIA BREHMERI.

Calopelia brehmeri (Hassl.); Sharpe, Hand-l. i. p. 84 (1899); id. anteà, p. 95.

No. 321. ♀ imm. River Ja, Dec. 30, 1903. "Ôdu."

This bird has a good deal of reddish brown remaining on the crown and face, and has the inner secondaries barred with black; the wing-spots are coppery bronze without any metallic-green lustre.

3. ŒDICNEMUS SENEGALENSIS.

Œdicnemus senegalensis Swains.; Sharpe, Cat. B. xxiv. p. 10 (1896); id. Hand-l. i. p. 172 (1899); Reichenow, Vög. Afrikas, i. p. 198 (1901).

No. 251. ♀ ad. 150 miles from the sea, Dec. 8, 1903.

This Thick-knee seems to have a wide range in West Africa, and frequents the open country.

4. POLYBOROIDES TYPICUS.

Polyboroides typicus Smith; Sjöstedt, K. Vet.-Akad. Handl. Stockh. xxvii. p. 40 (1895); Reichenow, J. f. O. 1896, p. 5; Sharpe, anteà, p. 98.

No. 192. ♂ juv. Efulen, Sept. 17, 1903. "Efufuk Ôbam."

A very black bird, moulting, and attaining the grey-and-black-banded tail of the adult.

"*P. typicus* probably ranges over both fresh and cleared land. One of my specimens had been feeding near a village, for its stomach contained husks of palm-nuts. Another had eaten a small rodent and a beetle."

5. UROTRIORCHIS MACRURUS.

Urotriorchis macrurus (Hartl.); Sharpe, anteà, p. 99.

"The specimen of November 1902 had nothing in its stomach, except what seemed to be a few crumpled blades of grass. Of the stomachs of the others I have no record. The species is, I think, confined to the forest."

6. ASTUR CASTANILIUS.

Astur castanilius (Bp.); Sharpe, anteà, p. 99.

Astur macroscelides Hartl.; Reichenow, J. f. O. 1896, p. 6.

Mr. Bates sends the following notes on the Goshawks and Sparrow-Hawks obtained by him in the Efulen district:—

"The small species of *Astur* and *Accipiter* are called by the general name of 'Ôbi-mven,' *i. e.* 'Mven-Hawk,' the 'mven' being a common species of mouse (*Mus univittatus*) which inhabits plantations and gardens.

"The food which I have noticed in their stomachs was generally such as they would find in gardens or cleared ground. The *Astur castanilius* had eaten some of the species of *Mus* that live in gardens. Two individuals of *Astur tousseneli* had eaten small frogs, which they might have met with anywhere; one had a lizard in its stomach, not found in the forest; two had remains of small birds. The *Accipiter erythropus* had just eaten one of the tiny *Estreldæ* that live only in clearings. The *Accipiter batesi* had feathers and bones of a small bird in its stomach, and had been mixing a little fruit with its diet, having also seeds of the 'aseñ' fruit, a tree which grows only in old clearings. All these 'Ôbi-mven' are skulking birds and seldom seen. Though they seem to feed largely in clearings, they probably live also in the virgin forest. I know that *Astur tousseneli* at least, which seems to be the commonest species, does so."

7. ASTUR TOUSSENELI.

Astur tousseneli (Verr.); Sharpe, anteà, p. 100.

Astur tachiro tousseneli Reichenow, Vög. Afrikas, I. p. 555 (1901).

No. 366. ♀ juv. Efulen, March 1, 1904. Ovary very small. [Wing 8·9.]

No. 439. Juv. Efulen, April 11, 1904. "Ôbi-mven." [Wing 8·5.]

One of these birds has a black back and white under surface, with spots and broad bars of black on the sides of the body. The second is tinged with buff below, and has more black spots on the sides of the fore-neck and breast. The flanks and thighs are barred with black and rufous, the latter more narrowly. In appearance they all resemble the young of *A. castanilius*, but the large size refers them to *A. tousseneli*. It should be noted that in my former paper (anteà, p. 100) the length of the wing in the smallest female is given as 8·3; it should have been 8·5 inches.

The specimen described as *A. tibialis* by me in the 'Catalogue of Birds' (vol. i. p. 108) is certainly a young male of *Astur castanilius*. Professor Reichenow has already made this identification of the two species, but was not certain whether the specimen in the Shelley Collection described by me (*l. c.*) in the 'Catalogue' was to be similarly identified.

8. Accipiter melanoleucus.

Accipiter melanoleucus Smith; Sharpe, anteà, p. 102.

No. 363. ♂ juv. Efulen, Feb. 25, 1904.

The young of this species is to be distinguished from the young of the Goshawks (*Astur macroscelides*, *A. tousseneli*, &c.) by its rufous upper surface, mottled with black centres to the feathers, and also by the long Accipitrine middle toe. In addition to the shorter middle toe of the *Astures*, the young birds of the latter have the upper surface uniform blackish brown.

"The worst feathered poultry-thief is a smallish Hawk of a black colour (*Accipiter melanoleucus*), though I never got a specimen taken in the act or with the booty on its person. It is so very adroit, that it is seldom killed. But though it escapes itself, it does not always take its prey away with it, for it not unfrequently drops a heavy fowl in attempting to carry it off, leaving ugly and generally fatal talon-wounds in its back."

9. Lophotriorchis lucani.

Lophotriorchis lucani Sharpe & Bouvier; Sharpe, anteà, p. 102.

"This seems to be also a forest-bird. The specimen sent had in its stomach the hair, bones, teeth, and claws of a little squirrel, probably *Sciurus poensis*."

10. Spizaëtus coronatus.

Spizaëtus coronatus (L.); Reichenow, Vög. Afrikas, i. p. 576 (1901); Sharpe, anteà, p. 102.

No. 229. Ad. Efulen, Nov. 6, 1903. "Ndôé."

"The most thoroughly forest-species of the Accipitres is the 'king of the birds' of this forest country, the *Spizaëtus coronatus* or 'Ndôé.' Its favourite nesting-places are said to be the inaccessible cliffs on the wooded hill-sides. It certainly avoids clearings and the vicinity of villages, for it is never seen except by hunters in the forest, and by them not often. One of my two specimens was obtained by a man who found in the forest half the carcass of a Hyrax (*Procavia dorsalis*) that had been left by the bird. He baited a trap with that, and caught the Eagle when it returned to finish its meal. The other specimen was shot in the forest, but its stomach was empty. Once a half-grown monkey (*Cercopithecus cephus*) was brought to me alive—though it soon died—with a wound on the top of its head. It was picked up where it had been left wounded—so the natives said—by a 'Ndôé.'"

11. Lophoaëtus occipitalis.

Lophoaëtus occipitalis (Daud.); Reichenow, J. f. O. 1894, p. 31, 1896, p. 7; id. Vög. Afrikas, i. p. 582 (1901); Sharpe, Hand-l. i. p. 264 (1899).

No. 445. ♂ ad. Efulen, April 14, 1904. "Abayek."

Mr. Bates sends the following note on this Crested Eagle:—

"This fine plumed knight never hides himself in the wilderness, but loves to perch in the trees on the outskirts of clearings, where he can see and be seen. Though not averse to being seen and admired, he generally knows enough to keep away from a man with a gun. But one bird has allowed me, when I had no gun, to pass very near to it, while its crest-plumes waved liked a flag in the wind. The Bulu boys believe that if you see an 'Abayek' perched on a limb, and say to it, 'Abayek, shew me your plumes,' it will bend forward its head for you, so that the long crest-feathers fall over its face. The specimen obtained was shot while circling over a village at midday, in company with another, and its stomach was quite empty. The stomach of a second example killed some time ago contained the remains of a good-sized wild mouse."

12. Dryotriorchis batesi, n. sp.

Dryotriorchis spectabilis (nec Schl.); Gurney, P. Z. S. 1880, p. 621, pl. lviii.; Reichenow, J. f. O. 1896, p. 7; Sharpe, anteà, p. 102.

Dryotriorchis spectabilis pt. (nec Schl.); Sharpe, Hand-l. i. p. 264 (1899); Reichenow, Vög. Afrikas, i. p. 569 (1901).

No. 250. ♂ ad. Efulen, Nov. 24, 1903.

No. 444. ♀ imm. Efulen, April 14, 1904.

The receipt of these two specimens confirms me in my opinion that the Serpent-Eagle of the Gold Coast is a different species from that of Camaroon, Gaboon, and the Congo.

The two specimens from the Gold Coast (Denkera) in the Museum are perfectly adult, and have the throat and chest with very large and closely-set black spots, while the chest in the Camaroon bird is uniform creamy or greyish white. One of the Denkera specimens is figured in the 'Ibis' for 1878 (pl. ii.), and the colour of the bird is misrepresented. It should have been much darker brown, and the throat and chest suffused with ferruginous, not with yellow. Professor Reichenow has (*l. c.*) referred to this figure as that of a *young* bird, misled, no doubt, by the fact that a spotted chest is the sign of immaturity in the Camaroon bird, whereas it is the character of the *adult* in the Gold Coast species. I can assure Professor Reichenow that our Denkera specimens are both full-plumaged adult birds. Another figure (Gurney, P. Z. S. 1880, pl. lviii.), taken from a living bird in the Zoological Society's Gardens, from Gaboon, is rightly determined as immature by Professor Reichenow, but the too conscientious artist has reproduced the effect of London smoke upon the under surface of the bird. In a wild state the lower parts are white!

I propose to name the Camaroon species :—

DRYOTRIORCHIS BATESI, n. sp.

Similis *D. spectabili*, sed præpectore lactescenti-albo concolore distinguendus. Long. tot. circa 20·0 poll., culm. 0·95, alæ 11·5, caudæ 9, tarsi 2·05.

Hab. Camaroon, Gaboon, Congo Region (type in Mus. Brit., ex Efulen).

"I think that I have now obtained in all five specimens of *Dryotriorchis spectabilis*, the only one about which I am in doubt being No. 250. [This is the type-specimen of *D. batesi*.] This last bird's stomach had in it pieces of the skin of a chameleon and fragments of insects; the other four had remnants of snakes, and nothing else that could be recognised. That of Aug. 13, 1903, had an entire snake two feet long in its crop, and another in its stomach partly digested. No. 441 had its stomach full of snake-scales and a few bones, though the latter had mostly disappeared; but several papery shells of eggs that must have been in the snake's body were still intact. These birds seem to be forest-dwellers."

13. HALIAËTUS VOCIFER.

Haliaëtus vocifer (Daud.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 39 (1895); Sharpe, anteà, p. 103.

Mr. Bates's note on this species is as follows:—"This was probably a stranger to the country. It was the only one ever seen in the district, and was new to the man who shot it, as well as to all the natives who saw the specimen in my collection. They had no native name for it. The empty stomach shewed that it had not learned how to obtain a meal in this forest-region."

14. GYPOHIERAX ANGOLENSIS.

Gypohierax angolensis (Gm.); Sjöstedt, t. c. p. 39 (1895);

Reichenow, J. f. O. 1896, p. 7; Sharpe, Hand-l. i. p. 267 (1899); Reichenow, Vög. Afrikas, i. p. 603 (1901).

Nos. 275, 303. ♀ imm. et juv. River Ja, Dec. 12, 26, 1903.

15. MILVUS ÆGYPTIUS.

Milvus ægyptius (Gm.); Reichenow, J. f. O. 1896, p. 7; Sharpe, anteà, p. 103.

"The Kite is the most thoroughly 'open-country' Bird of Prey that we have.

"It is not found at all in the more dense forest-region about Efulen, but has been seen only from Ebolewo'o eastward, where there is more open country; and there it seems to be confined to the immediate vicinity of villages, even breeding in the tall trees left in the clearings just behind the houses. At nearly every village passed in the region toward the Ja one or more of these birds were to be seen slowly circling round and often swooping down near to the village street. Once or twice I saw one pick up something off the ground in the street—merely a bit of refuse. The people say that these birds catch young chickens. Of the three stomachs opened, the first was empty and the other two both contained the husks of palm-nuts, one having a large insect besides."

16. ELANUS CÆRULEUS.

Elanus cæruleus (Desf.); Sharpe, anteà, p. 103.

"Another bird that seems to affect the immediate vicinity of villages is the 'Viol-ôbam'* (*Elanus cæruleus*).

"It is very secretive and as sly as a fox. It does not soar over villages or perch in the open, but sits among the thick leaves of trees or plantains just behind the houses, where, if it is not greatly slandered, it watches its opportunity to dart out and seize a chicken, even quite a large one, with which it rapidly makes off. This bird is seldom killed, and the two specimens which I obtained (*cf.* Sharpe, *l. c.*) had both been fasting."

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* "'Ôbam' and 'ôbi' are the terms for a Hawk in general. Many kinds have no more definite name in Bulu."

17. PERNIS APIVORUS.

Pernis apivorus (L.); Sharpe, anteà, p. 103.

No. 249. ♂ juv. Efulen, Nov. 20, 1903.

A young bird, pale brown, varied with lighter brow the under parts.

"The two specimens of *Pernis apivorus* were both shot in November, one in the year 1902, the other in 1903. If they were travelling through this district, they were at least finding good fare by the way. In the crop of the second was the comb or nest of a small sort of wild bee full of larvæ. The bird itself was very fat."

18. SCOTOPELIA BOUVIERI.

Scotopelia bouvieri Sharpe, anteà, p. 3.

No. 294. ♂ ad. Efulen, Dec. 22, 1903. "Akuñ."

19. HUHUA LEUCOSTICTA.

Huhua leucosticta (Hartl.); Sharpe, anteà, p. 104.

"All five specimens of the big-horned *Huhua leucosticta* had large insects in their stomachs—chiefly Orthoptera—and nothing more. Nearly all contained grasshoppers, some large beetles, one crickets, one cockroaches, and another cicadas. The specimen of March 19th, 1903, which was shot by myself at dusk in a tree over the path near a village, was first noticed flying in short circuits and alighting after each, like a small Flycatcher. Its stomach was found to be full of cockroaches, which it had thus been catching in the air."

20. HUHUA POENSIS.

Huhua poensis (Fraser); Sharpe, anteà, p. 104.

No. 203. ♂. Efulen, Oct. 17, 1903. "Nduk."

"Two of the 'Nduk,' *Huhua poensis*, had insects in their stomachs, though one of them had small bones (of frogs?) besides. The third specimen had what was left of a good-sized wild mouse. The specimen sent later (No. 203) had a large black beetle, and also the hair and bones of a very small rodent. This Owl keeps to the forest, where I have seen it trying to hide in the day-time, though disturbed by the persecution of small birds."

21. SCOPS LETTI.

Scops letti Büttik.; Sharpe, anteà, p. 104.

"None of the four examples of *Scops letti* had anything but insect-remains in the stomach. Two of them were killed by myself, in each case in the afternoon. The specimen of May 22, 1903, was discovered by school-boys, who were led to it by the chattering of small birds that were trying to drive it away. When I reached the place, a thick bit of forest left along a brook between two clearings, the Owl was seen with difficulty in the dense shade among the branches; when made out, its erect horns shewed very prominently. The other that I killed was similarly betrayed by little birds, but it was in a more open place in old-cleared land."

22. SYRNIUM NUCHALE.

Syrnium nuchale Sharpe; id. anteà, p. 105; Bates, anteà, p. 91.

No. 352. ♂ juv. Efulen, Jan. 30, 1904. "Akuñ."

No. 441. ♀ ad. Efulen, April 13, 1904.

"Some of the examples of *Syrnium nuchale* that I have skinned have had in their stomachs remnants of large insects —grasshoppers, large cockroaches, and the big black beetles that are found in rotten logs. Two had, besides beetles, the hair and bones of small rodents. The specimen of May 30, 1903, was brought to me alive, with its feathers all stuck together with 'stick-tight' burrs, or fruits of a *Desmodium* that grows on the trodden ground around villages and furnishes a hiding-place for small wild mice. The bird had evidently been pursuing some little mouse (or, it may be, only grasshoppers) into a patch of these 'stick-tights,' and had got its wings so plastered up with them that it could not spread them to fly, and so had been found and caught by boys, who are themselves accustomed to hunt mice at dusk. In this Owl's stomach were a few of the same burrs that covered its wings, and some feathers that looked like its own; it seemed to have swallowed some of the burrs and feathers in its efforts to free itself with its beak. But there was nothing else in the stomach, shewing that it had failed to catch its mouse."

23. GLAUCIDIUM SJÖSTEDTI.

Glaucidium sjöstedti Reichenow; id. Vög. Afrikas, i. p. 679 (1901); Sharpe, anteà, p. 106.

Nos. 196, 197. ♂ ad. Efulen, Sept. 29, 1903.
No. 201. ♂ ad. Efulen, Oct. 15, 1903.
No. 353. ♂ ad. „ Feb. 10, 1904.

"Most of the specimens of the little 'Fôbelebele' had grasshoppers or beetles in their stomachs. One had a tiny crab. I have seen this Owl in a tree in the forest during the day-time, with small birds nagging at it."

24. PŒOCEPHALUS AUBRYANUS.

Pœocephalus aubryanus Souancé; Salvad. Cat. B. xx. p. 367 (1891); Sharpe, Hand-l. ii. p. 25 (1900); Bates, anteà, p. 91.

Poicephalus gulielmi aubryanus Reichenow, t. c. p. 10 (1902).

a, b. ♂ ad. Efulen, Nov. 2, 5, 1901.
c. ♂ ad. „ Feb. 23, 1902. "Ékwale Kôs."
No. 440. ♂ ad. „ April 12, 1904.

25. AGAPORNIS PULLARIA.

Agapornis pullaria (L.); Reichenow, J. f. O. 1894, p. 31, 1895, p. 8; Sharpe, t. c. p. 35 (1900).

Agapornis pullarius Reichenow, Vög. Afrikas, ii. p. 21 (1902).

a. ♂ ad. Efulen, Feb. 27, 1902. "Kôs-nkaé."
b. ♀ ad. „ March 1, 1902.
Nos. 3, 5. ♂ ♀ ad. River Ja, Jan. 1903.
No. 274. ♂ ad. „ Dec. 17, 1903. "Kôs-nkaé."

26. AGAPORNIS ZENKERI.

Agapornis zenkeri Reichenow, Orn. MB. iii. p. 112 (1895); id. J. f. O. 1896, p. 8, Taf. ii. fig. 1; Sharpe, t. c. p. 35 (1900); Reichenow, Vög. Afrikas, ii. p. 19 (1902).

a. ♂ ad. Efulen, Nov. 17, 1903. "Kôs-nkaé."

27. CORACIAS GARRULUS.

Coracias garrulus L.; Sharpe, t. c. p. 46 (1900); Reichenow, t. c. p. 217 (1902).

a, b. ♀ ad. Efulen, Nov. 2, 18, 1902.

Professor Reichenow records the occurrence of the Common Roller in Camaroon in October and November. It is doubtless a regular winter migrant.

28. EURYSTOMUS GULARIS.

Eurystomus gularis Vieill.; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 67 (1895); Reichenow, J. f. O. 1894, p. 34, 1896, p. 19; Sharpe, Hand-l. ii. p. 47 (1900); Reichenow, Vög. Afrikas, ii. p. 230 (1902).

a. ♂ ad. Efulen, Sept. 13, 1902. "Kamañ."

29. CERYLE SHARPII.

Ceryle sharpei Gould; Reichenow, J. f. O. 1894, p. 34; Sharpe, t. c. p. 50 (1900).

Ceryle maxima (nec Pall.); Sjöstedt, t. c. p. 63 (1895).

Ceryle maxima var. *gigantea* Sw.; Reichenow, Vög. Afrikas, ii. p. 299 (1902).

Nos. 90, 930. ♂ ♀ imm. Efulen, March 19, 31, 1903.

No. 237. ♀ ad. Efulen, Nov. 14, 1903.

The adult female has a slaty-grey band across the chest, some of the feathers being centred with black and shewing a few white spots. A patch of white feathers, tipped with slaty black, separates the slaty-grey crop from the chestnut abdomen. The back is uniform slaty grey, with blackish centres to the feathers.

The young male and female are very much alike in colour, but the male has white on the centre of the breast and abdomen, varied with black spots; the flanks are uniform chestnut. The crop-band is very similar in both birds, but the male shews more rufous, the feathers being black in the centre with rufous margins, less distinct in the female. The latter has the under wing-coverts chestnut, whereas in the male they are white with longitudinal spots of black.

I cannot agree that Swainson's name of *gigantea*, even if his bird really came from Senegambia, belongs to this species, for he distinctly says that "the general colour is dark cinereous, *thickly covered with white spots*"!

30. ALCEDO GUENTHERI.

Alcedo guentheri Sharpe; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 65 (1895); Reichenow, J. f. O. 1894, p. 34, 1896, p. 18; Sharpe, Hand-l. ii. p. 51 (1900); Reichenow, Vög. Afrikas, ii. p. 294 (1902).

a. ♂ ad. Efulen, Jan. 23, 1902. "Akwaé."

b. No. 109. Efulen, March 30, 1903.

31. ISPIDINA LEUCOGASTER.

Ispidina leucogaster (Fras.); Sharpe, t. c. p. 54 (1900); Reichenow, t. c. p. 288.

a. ♂ ad. Efulen, Aug. 14, 1902. "Akwaé."

b. ♂ imm. ,, Dec. 13, 1902.

c. No. 360. ♂ ad. Efulen, Feb. 20, 1904.

The young bird differs from the adult only in having a black bill with a horny tip, and less blue on the back, the rump being tinged with brighter cobalt.

32. ISPIDINA PICTA.

Ispidina picta (Bodd.); Sjöstedt, t. c. p. 64 (1895); Reichenow, J. f. O. 1894, p. 34, 1896, p. 18; Sharpe, t. c. p. 54 (1900); Reichenow, Vög. Afrikas, ii. p. 286 (1902).

a. ♂ ad. Efulen, Dec. 10, 1902. "Akwaé."

33. MYIOCEYX RUFICEPS.

Myioceyx ruficeps (Hartl.); Sharpe, t. c. p. 54 (1900); Reichenow, t. c. p. 289 (1902).

No. 319. ♂ ad. River Ja, Dec. 30, 1903. "Akwaé."

This is the first opportunity that I have had of comparing specimens of this species from Camaroon and the Gold Coast. The former seem to be of rather a deeper purplish blue, and to have a more distinct buff stripe behind the ear-coverts and an evident collar of the same buff round the hind-neck. The black frontal band is also very much broader than in the Gold Coast birds. From the scanty material at my disposal I cannot venture to separate the birds of the two countries without seeing more specimens, but I am inclined to agree with Professor Reichenow that *M. lecontei* will turn out to be the young of *M. ruficeps*.

34. Halcyon badius.

Halcyon badius Verr.; Reichenow, J. f. O. 1894, p. 34, 1896, p. 17: Sharpe, Hand-l. ii. p. 56 (1900); Reichenow, Vög. Afrikas, ii. p. 285 (1902).

a. ♂ ad. Efulen, Feb. 6, 1902. "Akwaé."
b. ♂ ad. ,, Dec. 10, 1902.
c. ♀ ad. ,, May 8, 1902.
No. 54. ♂ ad. River Ja, Feb. 1903.
No. 412. Juv. Efulen, March 31, 1904.

35. Halcyon rufiventris.

Halcyon semicæruleus, pt., Sharpe, t. c. p. 57 (1900).

Halcyon semicæruleus rufiventris Reichenow, t. c. p. 277 (1902).

No. 311. ♀ ad. River Ja, Dec. 28, 1903. "Akwaé."

36. Halcyon senegalensis.

Halcyon senegalensis (L.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 62 (1895); Reichenow, J. f. O. 1894, p. 34, 1896, p. 17; Sharpe, t. c. p. 57 (1900); Reichenow, Vög. Afrikas, ii. p. 282 (1902).

a. ♂ ad. Efulen, Jan. 30, 1902. "Akwaé."
b. ♀ ad. ,, Feb. 1, 1902.

37. Halcyon cyanoleucus.

Halcyon cyanoleucus (V.); Sharpe, t. c. p. 57 (1900); Reichenow, t. c. p. 284 (1902).

a. ♂ ad. Efulen, March 10, 1902. "Akwaé."

38. Halcyon malimbicus.

Halcyon malimbicus (Shaw); Sharpe, t. c. p. 58 (1900); Reichenow, t. c. p. 281 (1902).

a. ♀ ad. Efulen, Feb. 1, 1902. "Akwaé."
No. 65. ♂ imm. River Ja, Feb. 1903.
Nos. 373, 383. ♂ ♀ ad. Efulen, March 14–21, 1904.

The young bird has the bright colours of the adult, but the colour on the chest is a little greener. The old bird has the white under tail-coverts tipped with blue. In the immature specimen the bill is much shorter than in the adult, and the lower mandible is blackish, mottled with red.

All the specimens have the crown strongly marked with blue, and the blue of the wings is richer and darker than in the allied forms.

39. LOPHOCEROS CAMURUS.

Lophoceros camurus (Cass.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 61 (1895); Reichenow, J. f. O. 1894, p. 34, 1896, p. 16; Sharpe, Hand-l. ii. p. 67 (1900); Reichen. Vög. Afrikas, ii. p. 255 (1902); Bates, anteà, p. 92.

a. ♂ ad. Efulen, Nov. 19, 1901. "Koloñ."
b. ♀ ad. ,, Jan. 16, 1902.
c. ♀ ad. ,, Feb. 3, 1902.
d, e. ♀ ♂ ad. ,, Nov. 15, 21, 1902.
f, g. Nos. 116, 118. ♂ ♀ ad. Efulen, April 3, 8, 1903.

The male has the bill entirely red, but the female has the culmen and the tips of both mandibles black, the remaining part being red as in the male.

40. HORIZOCERUS HARTLAUBI.

Horizocerus hartlaubi (Gould); Sharpe, t. c. p. 68 (1900).

Lophoceros hartlaubi Sjöstedt, t. c. p. 62 (1895); Reichenow, J. f. O. 1896, p. 16; id. Vög. Afrikas, ii. p. 256 (1902); Bates, anteà, p. 92.

a. ♂ ad. Efulen, Jan. 17, 1902. "Bebone." Moulting its centre tail-feathers.

No. 240. ♂ ad. Efulen, Nov. 17, 1903.

41. BYCANISTES SHARPII.

Bycanistes sharpei Elliot; Sjöstedt, t. c. p. 60 (1895); Reichenow, J. f. O. 1896, p. 16; Sharpe, t. c. p. 69 (1900); Reichenow, Vög. Afrikas, ii. p. 245 (1902).

a. No. 59. ♂ ad. River Ja, Feb. 1903.

42. ORTHOLOPHUS ALBOCRISTATUS.

Ortholophus albocristatus Cass.; Sjöstedt, t. c. p. 60 (1895); Reichenow, J. f. O. 1896, p. 16; Sharpe, t. c. p. 69 (1900); Reichenow, Vög. Afrikas, ii. p. 268 (1902).

Berenicornis albocristatus Reichenow, J. f. O. 1896, p. 32.

Ortholophus cassini Finsch, Notes Leyden Mus. xxiii. p. 201 (1903).

a, b, c. ♂ ad. Efulen, July 12–15, 1901. "Bebone."

No. 425. ♂ ad. Efulen, April 5, 1904.

Dr. Finsch has recently reviewed the genus *Ortholophus* (Notes Leyden Mus. xxiii. pp. 195–205), and has recognised three species—*O. albocristatus* (Cass.), *O. macrurus* (Bp.), (*i. e. O. leucolophus* Sharpe), and *O. cassini* Finsch.

The character which divides the last from the two former species is the white spotting on the wing-coverts and the tips of the quills. The bird is said to extend from Camaroon to the Congo.

O. albocristatus Cass. is said to be the Liberian form, and *O. macrurus* is the Gold Coast form, differing from *O. albocristatus* in the white on the throat and the sides of the neck.

Dr. Finsch is undoubtedly right in restoring the name of *O. macrurus* (Bp., ex Temm. MSS. in Mus. Lugd.). My name *leucolophus* becomes a synonym, as the type of *O. macrurus* is from Ashanti. But the name of *O. cassini* of Finsch must also sink into a synonym of *O. albocristatus* Cass. I do not think that Dr. Finsch can have seen Cassin's plate and description in the 'Transactions of the Philadelphia Academy' (vol. i. p. 135, pl. 15). Notwithstanding that the specimen described is said to have come from St. Paul's River, the bird figured is the Gaboon bird, with white spots on the wing-coverts and quills, which are also mentioned in the description.

We have in the Museum a good series of birds from Fanti and Ashanti, but only one from Liberia, presented to us by the Leyden Museum. This example, however, has the throat and the sides of the neck black, not white or mottled with white as in the Gold Coast species, and it seems to be distinct from the latter. I name it, therefore, after my old friend :—

ORTHOLOPHUS FINSCHI, n. sp.

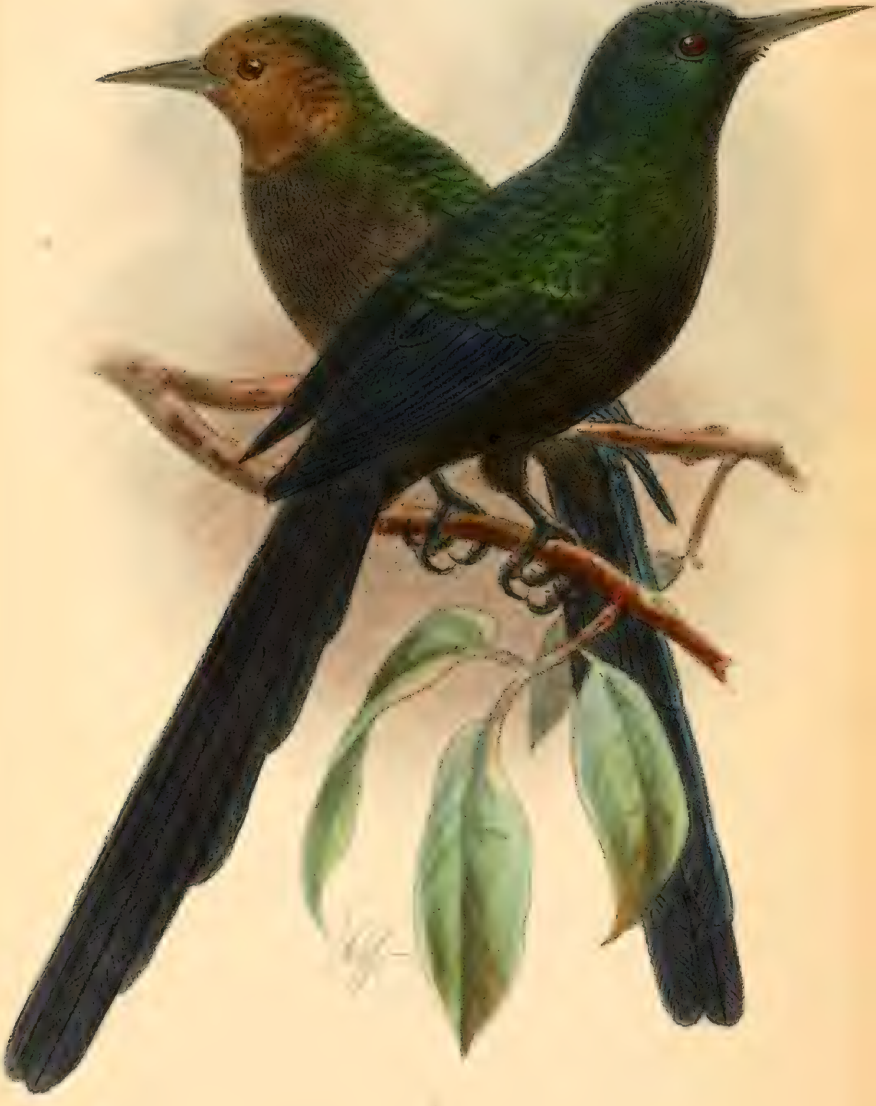
Ortholophus albocristatus Finsch (nec Cass.), Notes Leyden Mus. xxiii. p. 196 (1903).

Hab. Liberia.

43. SCOPTELUS BRUNNEICEPS. (Plate XII.)

Scoptelus brunneiceps Sharpe, Bull. B. O. C. vol. xiv. p. 19; Bates, anteà, p. 91.

Ibis. 1904, Pl. XII.



$\frac{3}{4}$

J. G. Keulemans del. et lith. Mintern Bros. imp.

SCOPTELUS BRUNNEICEPS

Distinguished from *S. castaneiceps* by the umber-brown colour of the head and throat and by its smaller size. Total length about 9·0 inches, culmen 1·0, wing 3·6, tail 4·5, tarsus 0·75.

a. ? ♂ [juv. ?]. Efulen, March 5, 1902.

Nos. 358, 359. ♂ ♀ ad. Efulen, Feb. 20, 1904.

I fear that I have described this species from a young bird or at best from an adult female, but the plumage corresponded with that of *S. castaneiceps*, of which the Museum now possesses four specimens, all similar and apparently adult. A male of *S. brunneiceps*, however, shot on the 20th of February and recently forwarded by Mr. Bates, has the head and throat like the back, so that the colour is blackish with a green gloss all over. The adult male is therefore like *S. aterrimus*, but has a green instead of a purple gloss. The adult female has a brown head and throat, and this is probably the character of the hen bird, which the young male would at first resemble.

44. MELITTOPHAGUS AUSTRALIS.

Meropiscus australis Reichenow, J. f. O. 1896, p. 19.

Melittophagus australis Sharpe, Hand-l. ii. p. 73 (1900); id. Ibis, 1902, p. 93.

Melittophagus gularis australis Reichenow, Vög. Afrikas, ii. p. 313 (1902).

a. No. 40. ♂ ad. River Ja, Feb. 1903. "Fa-Beti."

b. ♂ ad. River Ja, Feb. 1903.

c. No. 361. Efulen, Feb. 23, 1904.

45. MEROPS BATESIANA.

Merops batesiana Sharpe, Bull. B. O. C. x. p. xlviii (1900).

a. No. 18. ♂. River Ja, Jan. 1903.

46. MEROPS ALBICOLLIS.

Merops albicollis V.; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 66 (1895); Reichenow, J. f. O. 1896, p. 19; Sharpe, Hand-l. ii. p. 74 (1900).

Aerops albicollis Reichenow, Vög. Afrikas, ii. p. 317 (1902).

a, b. ♂ ad. Efulen, Jan. 20, 31, 1902.

c. No. 56. ♂ ad. River Ja, Feb. 1903.

47. CAPRIMULGUS BINOTATUS.

Caprimulgus binotatus (Bp.); Sharpe, Hand-l. ii. p. 85 (1900); Reichenow, Vög. Afrikas, ii. p. 364 (1902).

a. ♂. Efulen, March 3, 1902. "Mvôfôt."

This is a very interesting occurrence, as the species has hitherto only been known from the Gold Coast (Daboerom, Mus. Lugd.). It is, as Mr. Hartert remarks (Tierr., Aves, Lief. i. p. 45), a very peculiar species with no close ally, the only other species with unspotted quills being *C. concretus* of Borneo.

48. CHÆTURA STICTOLÆMA.

Chætura stictilæma Reichenow; Sharpe, t. c. p. 93 (1900); Reichenow, t. c. p. 387 (1902).

C. similis *C. usskeri*, sed nigricans, viridi vix nitens, minime brunnea, gutture toto albo, nigro distincte lineato distinguenda. Long. tot. 5·0 poll., culm. 0·3, alæ 5·85, caudæ 1·6, tarsi 0·4.

a, b. ♂; *c, d.* ♀ ad. Efulen, April 16, 1904.

These specimens apparently agree with Professor Reichenow's description of *C. stictolæma*, inasmuch as the white of the vent is not continuous with the white rump-band, the sides of the rump being blackish brown. The species was, *lapsu calami*, mentioned as *C. cassini* in the introduction to my paper (anteà, p. 90).

49. CYPSELUS BATESI.

Cypselus batesi Sharpe, Bull. B. O. C. xiv. p. 63 (1904).

No. 195. ♀ ad. Efulen, Sept. 29, 1903. "Nguleyebe."

This Swift does not seem to have any very near ally. It is deep purplish black all over, with a tinge of smoky brown on the base of the forehead and throat. The nearest species with which it can be compared is *C. toulsoni*, but the latter has a brownish head and a white throat.

50. COLIUS NIGRISCAPALIS.

Colius nigriscapalis Reichenow; Sharpe, Hand-l. ii. p. 145 (1900).

Colius nigricollis V.; Reichenow, J. f. O. 1896, p. 10.

Colius nigricollis var. *nigriscapalis* Reichenow, Vög. Afrikas, ii. p. 204 (1902).

Nos. 16, 32, 86. ♂ ad. } River Ja, Jan. and Feb. 1903.
No. 31. ♀ ad. } "Nsesal."

Nos. 285. ♂ ; 312, 313. ♀ ad. et juv. River Ja, Dec. 19, 1903.

51. HAPALODERMA NARINA.

Hapaloderma narina (Steph.) ; Reichenow, J. f. O. 1896, p. 11 ; Sharpe, Hand-l. ii. p. 150 (1900).

Apaloderma narina Reichenow, Vög. Afrikas, ii. p. 212 (1902).

a. ♀ imm. Efulen, Aug. 14, 1901. "Ndôñe-bisi."
b. ♀ imm. ,, April 4, 1902.
c, d. ♂ ad. et imm. Efulen, July 9, 1902, "Zume-si."
No. 387. ♂ imm. ,, March 23, 1904.

The series sent by Mr. Bates tends to shew that my *H. æquatoriale* ('Ibis,' 1902, p. 92) is, after all, not separable from *H. narina*. The adult male shot on July 9th has not such coarse vermiculations on the wing-coverts as in the type of *H. æquatoriale*, and I conclude that this character is a sign of immaturity, judging from some of the young birds sent by Mr. Bates.

52. TURACUS MERIANI.

Corythaix meriani Rüpp. ; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 45 (1895).

Turacus meriani (Rüpp.) ; Sharpe, t. c. p. 153 (1900) ; Reichenow, t. c. p. 47 (1902).

a. ♂ ad. Efulen, July 29, 1901. "Mba."

53. COCCYSTES CAFER.

Coccystes cafer (Licht.) ; Sjöstedt, t. c. p. 49 (1895) ; Sharpe, t. c. p. 156 (1900) ; Reichenow, t. c. p. 76 (1902).

a. ♀ ad. Efulen, Jan. 24, 1902.
b. ♂ ad. ,, Dec. 6, 1902.
c. ♂ ad. ,, Jan. 6, 1903. "Kundu'u mintul."

54. CUCULUS SOLITARIUS.

Cuculus solitarius Steph. ; Sharpe, t. c. p. 158 (1900) ; Reichenow, t. c. p. 87 (1902).

a. ♂ ad. Efulen, Nov. 12, 1901. "Za-so-foi."
b. ♂ ad. „ Nov. 12, 1902.

This seems to be the first authentic occurrence of *Cuculus solitarius* in the Camaroon Country. The specimens agree with those from the Congo in having the throat of a slightly darker chestnut shade than in South African birds, but not to such an extent as to allow of their being considered distinct.

55. CUCULUS CLAMOSUS.

Cuculus clamosus Lath.; Sharpe, Hand-l. ii. p. 159 (1900); Reichenow, Vög. Afrikas, ii. p. 86 (1902).

a. Imm. Efulen, Dec. 22, 1902.

This also seems to be the first recorded occurrence of the species from Camaroon.

56. METALLOCOCCYX SMARAGDINEUS.

Chrysococcyx smaragdineus (Sw.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 49 (1895).

Metallococcyx smaragdineus (Swains.); Sharpe, t. c. p. 161 (1900); Reichenow, t. c. p. 101 (1902).

No. 180. ♂ ad. Efulen, June 16, 1903.
No. 241. ♂ ad. „ Nov. 18, 1903. "Ta-ôjoé."

57. CHRYSOCOCCYX KLAASI.

Chrysococcyx klaasi (Steph.); Sjöstedt, l. c. (1895); Reichenow, J. f. O. 1894, p. 32, 1896, p. 11; Sharpe, l. c. (1900); Reichenow, Vög. Afrikas, ii. p. 98 (1902).

a. ♂ pull. Efulen, Dec. 22, 1902.
b. ♂ ad. River Ja, Feb. 1903. "Kumejaja."

58. CHRYSOCOCCYX CUPREUS.

Chrysococcyx cupreus (Bodd.); Sjöstedt, l. c. (1895); Reichenow, J. f. O. 1894, p. 32, 1896, p. 11; Sharpe, l. c. (1900); Reichenow, Vög. Afrikas, ii. p. 94 (1902).

a. ♀ imm. Efulen, Nov. 13, 1901. "Kumejaja."
b, *c.* ♂ ad. et imm. Efulen, May 8, 29, 1902.
d. ♂ ad. Efulen, Oct. 2, 1902.
No. 310. ♀ ad. River Ja, Dec. 28, 1903.
No. 362. ♂ juv. Efulen, Feb. 25, 1904.

59. CENTROPUS EFULENENSIS, n. sp.

Centropus francisci Bp.; Reichenow, J. f. O. 1894, p. 32.

Centropus leucogaster Leach, pt.; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 46 (1895); Sharpe, Hand-l. ii. p. 167 (1900); Reichenow, Vög. Afrikas, ii. p. 69 (1902).

a. ♂ ad. Efulen, March 1902. "Ésiledu'u."

No. 181. ♀ ad. Efulen, July 19, 1903.

Professor Reichenow has separated a form *C. chalybeiceps* which occurs from Senegambia to the Gold Coast, as having a greener head. In the Museum series Gold Coast birds all have a metallic-blue gloss, but the female sent by Mr. Bates has a distinctly green gloss on the head and neck, while the male has a blue tint. Both specimens, however, have a peculiarity which distinguishes them from all the others from the Gold Coast, viz., the blackish inner secondaries and tips to the quills, so that they are very easily separated, and I have proposed a new name for the species accordingly.

60. CENTROPUS MONACHUS.

Centropus monachus Rüpp.; Sjöstedt, l. c. (1895); Reichenow, J. f. O. 1894, p. 32; Sharpe, t. c. p. 168 (1900); Reichenow, Vög. Afrikas, ii. p. 62 (1902).

a. ♀ ad. Efulen, March 15, 1902. "Du'u."

61. CEUTHMOCHARES AEREUS.

Ceuthmochares aereus (V.); Sjöstedt, t. c. p. 50 (1895); Reichenow, J. f. O. 1894, p. 32, 1896, p. 10; Sharpe, t. c. p. 172 (1900); Reichenow, Vög. Afrikas, ii. p. 73 (1902).

a. ♀ ad. Efulen, Jan. 17, 1902. "Sometutu."

b. ♀ ad. „ Feb. 3, 1902. This specimen is very dark and approaches *C. intermedius* in character.

c. ♂ ad. Efulen, March 6, 1902.

d. ♀ ad. „ Dec. 10, 1902.

e. ♂ ad. River Ja, Feb. 1903.

62. INDICATOR EXILIS.

Indicator exilis (Cass.); Sharpe, t. c. p. 177 (1900); Reichenow, t. c. p. 113 (1902).

a. ♂ ad. }
b, c. ♀ ad. } Efulen, April 1–4, 1902. "Mali."

63. INDICATOR CONIROSTRIS.

Indicator conirostris (Cass.); Sharpe, Hand-l. ii. p. 177 (1900); Reichenow, Vög. Afrikas, ii. p. 111 (1902).

a–d. ♂ ad. }
e. ♀ ad. } Efulen, April 2, 3, 1902. "Mali."

64. LYBIUS BIDENTATUS.

Pogonorhynchus bidentatus (Shaw); Reichenow, J. f. O. 1894, p. 33.

Lybius bidentatus Sharpe, t. c. p. 178 (1900); Reichenow, Vög. Afrikas, ii. p. 119 (1902).

Nos. 345, 346. ♂ imm. River Ja, Jan. 11, 1904.

Two quite young birds, with little or no red on the head and throat, both of which are blackish. The white spot on the back and the red wing-band are neither of them well-developed.

65. TRICHOLÆMA FLAVIPUNCTATA.

Tricholæma flavipunctatum Verr.; Sharpe, t. c. p. 179 (1900); Reichenow, t. c. p. 131 (1902).

a. ♂ ad. Efulen, July 2, 1902. "Éve'evôl."
b. ♂ ad. ,, Oct. 28, 1902.
c. ♀ ad. ,, Dec. 23, 1902.

66. GYMNOBUCCO CALVUS.

Gymnobucco calvus (Lafr.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 51 (1895); Reichenow, J. f. O. 1894, p. 33; Sharpe, t. c. p. 180 (1900); Reichenow, Vög. Afrikas, ii. p. 137 (1902); Bates, anteà, p. 91.

a–d. ♂ ad. Efulen, July 24, 29, 1901. "Ôvôl."
e. ♂ ad. ,, March 31, 1902.
Nos. 166, 167. ♂ ♀ ad. Efulen, May 28, 1903.

67. GYMNOBUCCO PELI.

Gymnobucco peli Hartl.; Sjöstedt, l. c. (1895); Reichenow, J. f. O. 1896, p. 12; Sharpe, l. c. (1900); Reichenow, Vög. Afrikas, ii. p. 138 (1902).

a, b, c. ♀ ad. Efulen, May 14–23, 1902. "Ôvōl."
No. 322. ♂ ad. River Ja, Dec. 30, 1903.

Although *G. peli* is so easily recognised by its tuft of nasal bristles, it is very strange that it should be specifically distinct, as Mr. Bates has collected specimens of both species in the same locality at the same time of year. Dr. Zenker has also found them together, and Professor Sjöstedt has killed specimens of both species with the same shot. *G. peli* has always a wash of pale olivaceous below, while only one bird from the Lower Congo has stripes on the chest, and the nasal bristles are almost absent. It would seem as if *G. peli* were the young of *G. calvus*!

68. HELIOBUCCO BONAPARTII.

Gymnobucco bonapartei Hartl.; Reichenow, J. f. O. 1896, p. 12; id. Vög. Afrikas, ii. p. 139 (1902).

Heliobucco bonapartei (Hartl.); Sharpe, Ibis, 1902, p. 93.

a. ♂ ad. Efulen, Jan. 30, 1902. "Ôvôl."
b. ♂ ad. } „ March 11–26, 1902.
c, d. ♀ ad. }
e. ♀ ad. „ Dec. 19, 1902.

69. BUCCANODON DUCHAILLUI.

Barbatula duchaillui Cass.; Sharpe, Hand-l. ii. p. 181 (1900); id. Ibis, 1902, p. 93.

Buccanodon duchaillui Reichenow, t. c. p. 142 (1902).

a. ♀ ad. Efulen, Jan. 18, 1902. "Éve'evôl."
b. ♂ ad. „ July 9, 1902.
c, d. ♂ imm., ♀ ad. Efulen, Oct. 20, 1902.
e. ♂ ad. Efulen, Nov. 22, 1902.
f, g. ♀ ad. „ Dec. 5, 11, 1902.

70. BARBATULA SUBSULFUREA.

Barbatula subsulfurea (Fras.); Sjöst. K. Sv. Vet.-Akad. Handl. xxvii. p. 53 (1895); Sharpe, Hand-l. ii. p. 182 (1900); Reichenow, t. c. p. 148 (1902).

a. ♂. Efulen, June 2, 1902. "Ômvek."
b. ♂. River Ja, Jan. 6, 1904.

71. BARBATULA LEUCOLÆMA.

Barbatula leucolæma J. & E. Verr.; Reichenow, J. f. O. 1896, p. 12; Sharpe, l. c. (1900).

Barbatula leucolaima Verr.; Reichenow, Vög. Afrikas, ii. p. 147 (1902).

a. ♂ juv. Efulen, May 9, 1902.

The throat and chest are suffused with grey, which is a sign of immaturity in this species.

72. BARBATULA FLAVISQUAMATA. Verr

Barbatula scolopacea Temm., pt.; Sharpe, Hand-l. ii. p. 182 (1900).

Barbatula scolopacea stellata, pt., Reichenow, t. c. p. 145 (1902).

a, b. ♂ ♀ ad. Efulen, March 11, 19, 1902. "Ômvek."
c. ♂ ad. ,, April 18, 1902.
d. ♀ ad. ,, Oct. 17, 1902.
e. ♀ ad. ,, Nov. 17, 1902.
No. 342. ♂ ad. River Ja, Jan. 6, 1904.

The specimens from the Gold Coast are more golden above and deeper yellow on the under surface; and the differences pointed out by Prof. Reichenow are also shewn in our series. I find, however, that the Fernando Po birds belong to a larger and more dull-coloured race; and as they are the true *B. stellata*, the Gaboon and Camaroon species must be called *B. flavisquamata* (Verr.).

73. TRACHYLÆMUS PURPURATUS.

Trachyphonus purpuratus Verr.; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 55 (1895); Reichenow, J. f. O. 1896, p. 14; Bates, anteà, p. 91.

Trachylæmus purpuratus (Verr.); Sharpe, t. c. p. 187 (1900); Reichenow, Vög. Afrikas, ii. p. 159 (1902).

a. ♂ juv. Efulen, Nov. 8, 1901. "Ékuku."
b. ♀ ad. ,, Jan. 27, 1901.
c. ♀ ad. ,, March 6, 1902.
d, e. ♀ ad. ,, May 16, 20, 1902.

The last specimen has a subterminal bar of white on the outer tail-feather on each side.

The young bird, as Prof. Reichenow has pointed out, wants the crimson on the breast and shews none of the silvery spotting on the throat.

74. DENDROMUS NIVOSUS.

Campothera nivosa (Sw.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 56 (1895); Sharpe, Hand-l. ii. p. 207 (1900).

Dendromus nivosus, Reichenow, Vög. Afrikas, ii. p. 169 (1902).

a. ♂ [? imm.]. Efulen, Jan. 24, 1902. "Ngômôkô."
No. 367. ♀ ad. ,, March 1, 1904.

These supposed young birds are smaller than adults of *D. nivosus*, and are apparently in full plumage. The bill is shorter, but the chief difference lies in the greener colour of the whole plumage. In a good series of *D. nivosus* in the Museum the tone of the upper surface is golden olive, not *green*, and the green bars on the sides of the body, added to the generally greenish shade of the under parts, makes the Efulen bird quite conspicuous on comparison. The following is a description of one of the latter:—

Similis *D. nivoso* ad., sed olivaceo-viridescens, minimè aurantiaco-olivaceus: subtus viridescens, hypochondriis latè fusco-viridi fasciatis; maculis albis primariorum externorum magis conspicuè indicatis. Long. tot. circa 5·5 poll., culm. 0·7, alæ 3·2, caudæ 1·65, tarsi 0·65.

75. DENDROMUS PERMISTUS.

Campothera permista (Reichenow); Sjöstedt, l. c. (1895); Sharpe, t. c. p. 206 (1900).

Dendromus permistus, Reichenow, t. c. p. 170 (1902).

a. ♀ ad. Efulen, May 6, 1902.
b. ♀ ad. ,, Sept. 30, 1902. "Ngômôkô."
c. ♀ ad. ,, Nov. 9, 1902.

76. DENDROMUS CAROLI.

Campothera caroli (Malh.); Reichenow, J. f. O. 1894, p. 33, 1896, p. 14; Sharpe, t. c. p. 207 (1900).

Dendromus caroli Reichenow, Vög. Afrikas, ii. p. 168 (1902).

a. ♂ ad. Efulen, July 3, 1902. "Ngômôkô."
No. 379. ♂ imm. Efulen, March 8, 1904.
No. 338. ♀ ad. River Ja, Jan. 5, 1904. "Ngômôkô."

77. DENDROPICUS GABONENSIS.

Dendropicus gabonensis (Verr.); Reichenow, J. f. O. 1896,

p. 15; Sharpe, Hand-l. ii. p. 218 (1900); Reichenow, Vög. Afrikas, ii. p. 201 (1902).

a, b. ♂ ad. et imm. Efulen, Feb. 28, 1902. "Ngômôkô."
c. ♂ ad. Efulen, May 27, 1902.

78. DENDROPICUS LAFRESNAYII.

Dendropicus lafresnayei Malh.; Sharpe, l. c. (1900); Reichenow. t. c. p. 195 (1902).

No. 17. ♂ imm. River Ja, Jan. 1903. "Ngômôkô."
No. 44. ♀ ad. ,, Feb. 1903.
No. 419. ♀ ad. Efulen, April 2, 1904.

79. MESOPICUS XANTHOLOPHUS.

Mesopicus xantholophus (Hargitt); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 57 (1895); Reichenow, J. f. O. 1896, p. 15; Sharpe, t. c. p. 223 (1900); Reichenow, Vög. Afrikas, ii. p. 188 (1902).

a. ♂ ad. Efulen, Jan. 9, 1902. "Ngômôkô."
b, c. ♀ ad. ,, March 14, 1902. "Ngômôkô."
No. 135. ♂ ad. ,, April 20, 1903. "Ngômôkô."

The male procured on the 20th of April is remarkable for the uniform golden-brown colour of the centre of the breast and abdomen; it appears to be a very old bird.

80. MESOPICUS ELLIOTI.

Mesopicus ellioti (Cass.); Sharpe, l. c. (1900); Reichenow, t. c. p. 185 (1902).

a. ♂ ad. Efulen, March 12, 1902. "Ngômôkô."
b. ♂ ad. ,, June 16, 1902.

These two birds agree with one in the Museum from Landana.

81. VERREAUXIA AFRICANA.

Verreauxia africana (Verr.); Sharpe, t. c. p. 235 (1900); Reichenow, t. c. p. 165 (1902).

Blax gymnophthalmus Reichenow, J. f. O. 1896, p. 13, Taf. iii. fig. 1.

a, b. ♀ ad. Efulen, Dec. 12, 16, 1902. "Ôbô'ô-mi nkomekom."
c. ♀ ad. Efulen, March 24, 1904.

These female birds agree with Prof. Reichenow's description, wanting the red on the forehead and the reddish-brown tint on the under parts, which are dull slaty grey with a slight wash of greenish olive.

82. PITTA PULIH.

Pitta angolensis (nec V.) Sclater, Cat. B. Brit. Mus. xiv. p. 422 (1888); Reichenow, J. f. O. 1896, p. 19; Sharpe, Hand-l. iii. p. 180 (1901).

No. 357. ♀ ad. Efulen, Feb. 19, 1904.

The interesting paper of Dr. Finsch (Notes Leyden Mus. xxiii. pp. 206–212) has disclosed an unexpected confusion in the nomenclature of the African Pittas. Up to recent times, the name of *P. angolensis* was employed for the common *Pitta* of West Africa, with *P. pulih* Fraser for a synonym. Dr. Finsch points out that the type of *P. angolensis* Vieill. was from the Congo, and obtained by Perrein; the type was figured by Des Murs (Iconogr. Orn. pl. 46), and the species has been lately described by Reichenow as *P. longipennis*. The Leyden Museum possesses a specimen from Boma on the Lower Congo, and the range of the species is thus traced from the latter locality to Mashona-land and Lake Nyasa (*cf.* Finsch, t. c. p. 210). The widely distributed *Pitta angolensis* of authors, but not of Vieillot, has therefore to bear the name of *Pitta pulih* of Fraser.

83. PITTA REICHENOWI.

Pitta reichenowi Madarász, Orn. MB. 1901, p. 133; Sharpe, Ibis, 1903, p. 91, pl. iv. fig. 1.

Nos. 314, 317. ♂ ♀. River Ja, Dec. 28, 29, 1903.

This is an entirely new locality for this *Pitta*, which was previously known only from the Central Congo (*cf.* Sharpe, l. c.).

84. PSALIDOPROCNE PETITI.

Psalidoprocne petiti Sharpe & Bouvier; Sharpe, Hand-l. iii. p. 202 (1901); Reichenow, Vög. Afrikas, ii. p. 428 (1903).

No. 76. ♂. River Ja, Feb. 1903.

No. 437. Efulen, April 8, 1904.

These birds quite agree with typical specimens from the Congo.

85. PSALIDOPROCNE NITENS.

Psalidoprocne nitens (Cass.); Sharpe, Hand-l. iii. p. 202 (1901); Reichenow, Vög. Afrikas, ii. p. 426 (1903).

a. ♂ ad. Efulen, July 19, 1901. "Nguleyēbe."
b. ♂ juv. „ Jan. 8, 1903. "Nguleyēbe."

The young bird is entirely sooty or brownish black, without any gloss, as recorded also by Dr. Reichenow.

86. ALSEONAX EPULATA.

Alseonax epulata (Cass.); Reichenow, J. f. O. 1896, p. 20; Sharpe, t. c. p. 207 (1901); Reichenow, Vög. Afrikas, ii. p. 455 (1903).

a. ♂ ad. Benito River, French Congo, Feb. 5, 1901. Feet and base of bill bright yellow. "Ôkutebeo."
b. ♀ ad. 25 miles from Batanga, Dec. 5, 1901.
c. ♂ ad. Efulen, Dec. 30, 1901.
d. ♀ ad. „ Dec. 17, 1902. "Ôkulebe."
e. ♂ juv. „ March 25, 1902.
No. 402. ♀ pull. Efulen, March 26, 1904.
No. 182. ♂ ad. „ April 18, 1903. "Kula."
Nos. 202, 210. ♂; 211. ♀ ad. Efulen, Oct. 15–20, 1904.
No. 215. ♂ ad. Efulen, Nov. 1, 1903.
No. 421. ♀ ad. „ April 4, 1904.

There is no difference in the colour of the male and female, and the young bird is spotted with sandy buff after the manner of Flycatchers. A specimen in the British Museum from the river Muni (*Du Chaillu*) has the throat entirely white, whereas in Mr. Bates's series the chin and upper throat only are white and the rest of the throat grey. Another specimen out of Du Chaillu's collection from Gaboon, also co-typical, does not differ from the Camaroon series, and the extra amount of white may be due to the preparation of the Muni River specimen.

87. ALSEONAX FANTISIENSIS.

Alseonax fantisiensis Sharpe; id. l. c. (1901).

Alseonax epulata fantisiensis Reichenow, t. c. p. 456 (1903).

a. No. 177. ♀ ad. Efulen, June 9, 1903. "Kula."

This species, the distinctness of which my friend Dr. Reichenow seems to doubt, is really different from *A. epulata,* being distinguished by its lighter grey back and its dark legs. I have eight specimens before me, and the legs are dark even in the nestling, which is much whiter below than *A. epulata.*

88. STIZORHINA FRASERI.

Cassinia fraseri Strickl.; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 75 (1895); Reichenow, J. f. O. 1896, p. 23.

Stizorhina fraseri Oberh. P. Philad. Acad. 1900, p. 213; Sharpe, Hand-l. B. iii. p. 209 (1901); Reichenow, Vög. Afrikas, ii. p. 466 (1903).

a. ♂. Efulen, Jan. 18, 1902.
b. ♀. „ Oct. 20, 1902.
c. ♀. „ Dec. 20, 1902.
No. 119. ♂. Efulen, April 1, 1903.
No. 417. ♂. „ April 1, 1904.
No. 426. ♀ ad. „ April 5, 1904.

Capt. Alexander keeps the Fernando Po bird (typical *S. fraseri*) distinct from the Gaboon and Congo form, which is *S. rubicunda* (Hartl.). I cannot see any reason for separating the Camaroon form from *S. fraseri.*

89. MUSCICAPA GRISOLA.

Muscicapa grisola Linn.; Reichenow, J. f. O. 1896, p. 20; Sharpe, t. c. p. 211 (1901); Reichenow, Vög. Afrikas, ii. p. 449 (1903).

a. ♀. Efulen, Nov. 8, 1901.

90. MUSCICAPA LUGENS.

Muscicapa lugens (Hartl.); Sjöstedt, t. c. p. 69 (1895); Sharpe, t. c. p. 212 (1901).

Alseonax lugens Reichenow, t. c. p. 453 (1903).

a. ♂ ad. Efulen, April 17, 1903.

This specimen has a wholly black bill and the under tail-coverts white. It agrees very well with a duplicate specimen from Bipindi, collected by Dr. Zenker, and marked "*A. lugens*" by Dr. Reichenow.

91. MUSCICAPA CÆRULESCENS.

Muscicapa cærulescens (Hartl.); Sharpe, Hand-l. iii. p. 211 (1901).

Alseonax cærulescens Reichenow, Vög. Afrikas, ii. p. 454 (1903).

a. ♂ ad. Efulen, Nov. 7, 1901.

According to Dr. Reichenow's "Key" of *Alseonax*, this specimen belongs to *M. cærulescens* Hartl. It has the wing 2·9 inches, and agrees with a Yambuya specimen from Jameson's collection. Both of these are darker than some of the South-African skins.

92. PŒDILORHYNCHUS CAMARUNENSIS.

Pedilorhynchus stuhlmanni camerunensis Reichenow, t. c. p. 461 (1903).

Alseonax comitata (Cass., pt.) id. J. f. O. 1896, p. 20; Sharpe, t. c. p. 207 (1901).

No. 8. River Ja, Jan. 1903. "Kula." [W. 68 m.]
No. 53. ♀ ad. River Ja, Feb. 1903. "Kula." [W. 63 m.]
No. 302. ♂ ad. „ Dec. 26, 1903.
No. 324. ♂. „ Dec. 31, 1903.

This is no doubt Reichenow's *P. camerunensis*, but that it is different from his *P. stuhlmanni* I can scarcely believe. Indeed, while admitting that it is convenient to put *P. comitatus* and its two allies into a separate genus on account of their broader bills, I believe that only one species can be recognised. The measurement of the wing put forward by Dr. Reichenow (Vög. Afrikas, ii. p. 460) does not seem to be a good character. Examples in our series from the Gold Coast have the wing 2·5–2·6 inches, two (typical *P. comitatus*) from Gaboon 2·45–2·55 inches, one from Bellima, Equat. Africa, 2·5 [Emin measured it as 63 mm.], two from the Ja River 2·55– 2·7 inches, and one from Landana 2·7. The slightly longer wings of the Camaroon and Congo birds are not of much weight, and I expect that a further series will prove that there is only one species of *Pædilorhynchus*, viz. *P. comitatus*. The Gold Coast birds have a slight tinge of buff on the abdomen, but one of the Gaboon specimens shews traces of this colour.

93. HYLIOTA VIOLACEA.

Hyliota flavigastra Sw.: part., Sharpe, Hand-l. iii. p. 237 (1901).

Hyliota violacea Verr.; Reichen. J. f. O. 1896, p. 23; id. Vög. Afrikas, ii. p. 474 (1903).

a. ♂ ad. Efulen, April 1, 1902.

Camaroon seems to be a new locality for this species. Professor Reichenow has, however, recorded *H. nehrkorni* from Jaunde. Mr. Bates's specimen has black under wing-coverts and thighs, and a large white spot on the wing. *H. violacea* is quite distinct from *H. flaviventris* (*flavigaster* auct.!), and I was wrong in uniting them in the 'Hand-list.'

94. DIAPHOROPHYIA CASTANEA.

Diaphorophyia castanea (Fraser); Reichenow, J. f. O. 1896, p. 21; Sharpe, Ibis, 1902, p. 93; Reichenow, Vög. Afrikas, ii. p. 490 (1903).

a. ♀ ad. Efulen, Jan. 17, 1902. "Ngweñ."
b. ♂ ad. ,, Jan. 27, 1902.
c. ♂ ad. ,, March 22, 1902.
d, e. ♂ juv. et ad.; *f.* ♀ ad. Efulen, April 1, 1902.
g. ♂ ad. Efulen, Dec. 5, 1902.
h. ♂ ad. ,, April 11, 1903.
Nos. 378, 406. ♀ ad. Efulen, March 18, 29, 1904.

The young male is, as described by Dr. Reichenow, similar to the female as regards its red back, but has a brownish head, and the throat mostly hoary white mottled with chestnut, the rufous feathers having whitish ends.

The Camaroon species is the true *D. castanea*, as stated by Dr. Reichenow, but it is not always easy to distinguish it from *D. hormophora* of the Gold Coast, which is separated by the above-named authority on account of its white neck-band. The skins of *Diaphorophyia* are difficult to preserve perfectly, and often make very bad specimens, so that a little distortion of the feathers of the hind-neck, or the absence of a few plumes in a male *D. castanea*, causes the white feathers on the sides of the neck to impinge and to almost form a white collar. The Museum contains specimens of the true *D. castanea* from Camaroon (*Crossley*), Efulen (*Bates*), Gaboon (*Du Chaillu*), Como River, 60 miles from Gaboon (*Bates*), Fernando Po (*Fraser*), Aruwhimi River (*Jameson*).

95. PLATYSTIRA CYANEA.

Platystira cyanea (P. L. S. Müll.); Sjöstedt, K. Vet.-Akad. Handl. xxvii. p. 70 (1895); Reichenow, J. f. O. 1896, p. 20; Sharpe, Hand-l. B. iii. p. 246 (1901); Reichenow, Vög. Afrikas, ii. p. 488 (1903).

a. ♀ ad. River Benito, French Congo, Jan. 17, 1901.
No. 35. ♂ ad. River Ja, Feb. 1903. "Njibesole."
Nos. 297, 300. ♀ ad. River Ja, Dec. 24, 1903.
No. 350. ♂ ad. " Jan. 11, 1904.

96. BIAS MUSICUS.

Bias musicus (V.); Sjöstedt, t. c. p. 74 (1895); Reichenow, J. f. O. 1896, p. 21; Sharpe, l. c. (1901); Reichenow, Vög. Afrikas, iii. p. 469 (1903).

a. ♂ ad. Benito River, French Congo, Jan. 15, 1901.
b. ♀ ad. Efulen, July 25, 1901. "Kuletyañ."
c. ♀ ad. " Nov. 6, 1901.
d. ♀ ad. " Feb. 27, 1902.
e. ♂ imm. " March 26, 1902.

97. MEGABIAS ATRIALATUS.

Dryoscopus atrialatus Cass. Pr. Philad. Acad. v. p. 216 (1851).

Megabias flammulatus Verr. Rev. et Mag. de Zool. 1855, p. 348; Sjöstedt, t. c. p. 75 (1895); Reichenow, J. f. O. 1894, p. 35.

Megabias atrialatus Sharpe, t. c. p. 247 (1901); Reichenow, Vög. Afrikas, ii. p. 468 (1903).

a. ♀ ad. Efulen, Dec. 15, 1902.

This specimen seems to me to be identical with other female examples from the Gold Coast, and males from these two localities also do not differ. It is, however, otherwise with the specimen in the Museum from Tingasi obtained by Emin Pasha (*cf.* Shelley, P. Z. S. 1888, p. 27). This bird is brown on the head and mantle, slightly more rufous on the scapulars and lower back, and very pale cinnamon on the rump and upper tail-coverts, the latter having black bases. The quills and wing-coverts are dark brown, edged with rufous, but are not chestnut as in the West-African *M. atrialatus.* The tail-feathers are blackish with rufous margins, and are not chestnut in the last-named species. Although the Tingasi specimen is a young male and shews traces of the black adult feathers being donned, the differences are not due to immaturity, as a male in change of plumage from Fanti has a chestnut back and chestnut tail-feathers, the latter more or less mottled with black. Mr. Jackson has also obtained the same *Megabias* in Equatorial Africa, and has described it as a distinct species, for which he will propose the name of *Megabias æquatorialis.*

98. SMITHORNIS RUFILATERALIS.

Smithornis rufilateralis G. R. Gray; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 75 (1895); Reichenow, J. f. O. 1896, p. 22; Sharpe, Hand-l. iii. p. 247 (1901); Reichenow, Vög. Afrikas, ii. p. 471 (1903).

a. ♂ ad. Efulen, Jan. 20, 1902. "Nôme-kupe-mefan."
b. ♂ ad. „ April 10, 1902.
c. ♂ ad. „ Dec. 10, 1902.

I cannot discover any differences between these Efulen birds and a series from the Gold Coast in the Museum.

99. SMITHORNIS ZENKERI.

Smithornis zenkeri Reichenow, Orn. MB. xi. p. 41 (1903: Bipindi, Kamerun); id. Vög. Afrikas, ii. p. 724 (1903).

a. ♀. Efulen, Jan. 2, 1903.

Compared with a typical (male) specimen of *S. sharpei* from Fernando Po, the Efulen bird appears to be paler, not so grey on the head, nor so deep orange-chestnut on the sides of the throat and the sides of the breast. In

S. zenkeri the colour of the latter parts is pale orange-rufous, not verging on chestnut. It must be remembered that the Efulen bird is a female, and a further series may shew the two species to be identical; but so far as we know at present they seem to be separable.

100. ARTOMYIAS FULIGINOSA.

Artomyias fuliginosa J. & E. Verr.; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 70 (1895); Reichenow, J. f. O. 1896, p. 23; Sharpe, Hand-l. iii. p. 247 (1901); Reichen. Vög. Afrikas, ii. p. 462 (1903).

a. ♂ ad. Efulen, Nov. 1, 1901.
b. ♀ imm. „ Jan. 31, 1902.
c, d. ♂ ad. „ Mar. 14–17, 1902. "Kula."
e. ♂ ad. „ April 15, 1902.
No. 193. ♂ ad. Efulen, Sept. 24, 1903.
Nos. 205, 212. ♀ ad. Efulen, Oct. 21, 1903.
No. 365. ♂ ad. Efulen, Feb. 29, 1904.
Nos. 368, 401. ♂ ♀. Efulen, Mar. 1, 26, 1904.

The sexes appear to be alike in colouring, but younger birds seem to be more distinctly mottled with black spots underneath, and to have rufescent margins to the feathers of the upper surface, as in a Sand-Martin (*Riparia*). Old birds appear to be more uniform and to lack these light margins. The female obtained on the 31st of January shews many traces of immaturity, and a male killed on the 14th of March has also remains of rufous margins to the feathers.

101. ERYTHROCERCUS MACCALLI.

Erythrocercus maccalli (Cass.); Reichenow, J. f. O. 1896, p. 22; Sharpe, t. c. p. 250 (1901); Reichenow, Vög. Afrikas, ii. p. 494 (1903).

No. 15. ♀. River Ja, Jan. 1903.
No. 77. ♂. „ Feb. 1903.
No. 288. ♀. „ Dec. 21, 1903.

These specimens agree with a Congo example in the Museum.

102. Trochocercus nigromitratus.

Trochocercus nigromitratus Reichen.; Sharpe, Hand-l. iii. p. 251 (1901); Reichenow, Vög. Afrikas, ii. p. 500 (1903).

No. 114. ♂. Efulen, April 2, 1903. [Wing 2·5, tail 2·75.]

No. 407. ♀. Efulen, March 29, 1904. [Wing 2·6, tail 2·75.]

The specimen identified as a male has whitish lores and whitish tips to the chin-feathers, and therefore agrees with Dr. Reichenow's description of the adult female, which a young male would probably resemble.

The two specimens which I identify as *T. nigromitratus* are much lighter ashy below than *T. nitens*, which is more slaty blue in appearance, and I believe those mentioned below to be *T. nitens*; but Mr. Bates will doubtless discover the relation of these Flycatchers on his return to Africa.

103. Trochocercus nitens.

Trochocercus nitens Cass.; Reichenow, J. f. O. 1896, p. 21; Sharpe, l. c. (1901); Reichenow, Vög. Afrikas, ii. p. 500 (1903).

a. ♂ ad. Efulen, Dec. 12, 1902. [Wing 2·5, tail 2·3.] "Abelebe."

No. 163. ♂ [imm.?]. Efulen, May 23, 1903. [Wing 2·4, tail 2·3.]

No. 408. ♂ [imm.?]. Efulen, Mar. 29, 1904. [Wing 2·4, tail 2·5.]

No. 84. ♀ [ad.?]. River Ja, Feb. 1903. [Wing 2·4, tail 2·3.] "Kula."

I am by no means sure that the three slaty-blue birds supposed by me to be the young of *T. nitens* really belong to that species. The adult male has a distinct gloss on the back and on the black throat; it is light bluish grey on the rest of the under surface, whereas the other three specimens are slaty blue and have no black on the throat.

Dr. Reichenow mentions in his work that specimens from Fanti and Togo appear to differ from those from

Camaroon and the Congo. This is the first time that I have been able to compare birds from these two localities, and there is no doubt in my mind that the Fanti bird is different. I describe it as :—

TROCHOCERCUS REICHENOWI, n. sp.

Similis *T. nitenti* Cass., sed crista longiore, pectore sordide cinerascente, abdomine concolore, nec albicante, et axillaribus cinerascentibus minime albis distinguendus.

104. TCHITREA TRICOLOR.

Terpsiphone tricolor (Fras.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 71 (1895); Sharpe, Hand-l. iii. p. 264 (1901).

Tchitrea tricolor Reichenow, Vög. Afrikas, ii. p. 504 (1903).

a. ♂ ad. Efulen, March 13, 1902.
b. ♀ imm. „ May 17, 1902. "Abelebe."
No. 130. ♂ ad. Efulen, April 18, 1903.
No. 73. ♀ ad. River Ja, Feb. 1903.
No. 168. ♀ juv. Efulen, May 29, 1903.
No. 206. ♂ ad. „ Oct. 17, 1903.
No. 219. ♀ ad. „ Nov. 3, 1903.

The specimen No. 168 is apparently a young bird having the throat and crown grey like the back, but the rest of the under surface pale cinnamon, washed with the same slaty grey as the back. It is an extraordinary-looking specimen, but I fancy that I can see remains of grey on the breast of another young bird from Camaroon (*Crossley*).

105. TCHITREA VIRIDIS.

Terpsiphone cristata (Gm.); Sjöstedt, l. c. (1895); Sharpe, l. c. (1901).

Tchitrea viridis Reichenow, J. f. O. 1896, p. 21; id. Vög. Afrikas, ii. p. 504 (1903).

a. ♂ ad. Efulen, Nov. 7, 1901. "Abelebe."
b. ♂ ad. „ Jan. 21, 1902.
c. ♂ imm. „ May 1902.
d. ♀ ad. „ Dec. 16, 1902.

Nos. 41, 45. ♂ ♀. River Ja, Feb. 1903. "Abelebe."

No. 194. Efulen, Sept. 10, 1903. "Abelebe."

The specimen killed in January has the whole of the back and scapulars pure white, whereas the November male has the back steel-blue like the head.

106. TCHITREA RUFOCINEREA.

Terpsiphone cristata, pt., Sharpe, Cat. B. iv. p. 354 (1879); id. Hand-l. iii. p. 264 (1901).

Tchitrea rufocinerea Reichenow, Vög. Afrikas, ii. p. 507 (1903).

No. 81. ♂. River Ja, Feb. 1903.

This species has been rightly separated by Dr. Reichenow from *T. cristata* (which he prefers to call *T. viridis* P. L. S. Müll.), the female of which it much resembles; it may be distinguished by its clearer blue-grey colour and bright chestnut under tail-coverts. The head is also of a clearer blue-grey, as are also the sides of the neck.

I expect that this species will ultimately have to be called *Tchitrea melampyra* Verr. in Hartlaub's Orn. W.-Afr. p. 90. We have a typical specimen sent by Verreaux in 1856, which agrees exactly with the description. In the latter, however, he does not mention the rufous under tail-coverts.

107. ELMINIA LONGICAUDA.

Elminia longicauda (Swains.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 73 (1895); Reichenow, J. f. O. 1896, p. 21; Sharpe, Hand-l. iii. p. 265 (1901); Reichenow, Vög. Afrikas, ii. p. 496 (1903).

a. ♀ ad. Efulen, July 7, 1902.

No. 19. ♀ ad. River Ja, Jan. 1903.

No. 46. ♀ ad. ,, Feb. 1903.

No. 265. ♂ ad. ,, Dec. 15, 1903. "Ôse-minjo-mbôk."

Nos. 331, 351. ♂ ♀ ad. River Ja, Jan. 3, 11, 1904.

108. CORACINA AZUREA.

Graucalus azureus Cass.; Sjöstedt, t. c. p. 76 (1895); Sharpe, t. c. p. 291 (1901).

Coracina azurea Reichen. Vög. Afrikas, ii. p. 516 (1903).

♂. Efulen, Dec. 31, 1901.

This specimen seems to be of a slightly deeper and more cobalt-blue, not so turquoisine-blue as the generality of examples from West Africa. It is, however, so closely approached by a specimen from Wasa on the Gold Coast that I cannot admit any specific difference.

109. CAMPOPHAGA QUISCALINA.

Campophaga quiscalina Finsch, Ibis, 1869, p. 189; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 76 (1895); Sharpe, Hand-l. iii. p. 298 (1901): Reichenow, t. c. p. 520 (1903).

a. ♂ ad. Efulen, Jan. 25, 1902.

110. CRINIGER CHLORONOTUS.

Criniger chloronotus (Cass.); Sjöstedt, t. c. p. 96 (1895); Reichenow, J. f. O. 1894, p. 41; Sharpe, t. c. p. 316 (1901).

a. Efulen, Dec. 29, 1902.

No. 389. ♂ ad. Efulen, March 24, 1904.

111. CRINIGER CALURUS.

Criniger calurus (Cass.); Sjöstedt, l. c. (1895); Reichenow, J. f. O. 1896, p. 37; Sharpe, l. c. (1901).

a. ♂ ad. Efulen, Jan. 3, 1902.
b. ♂ ad. " Jan. 25, 1902.
No. 72. Ad. River Ja, Feb. 1903.
No. 340. ♂ ad. " Jan. 6, 1904.
No. 404. ♀ ad. Efulen, March 28, 1904.
No. 424. ♂ ad. " April 4, 1904.

112. BLEDA SIMPLEX.

Xenocichla simplex (Temm.); Sjöstedt, t. c. p. 99 (1895); Reichenow, J. f. O. 1896, p. 37.

Bleda simplex Sharpe, t. c. p. 321 (1901).

a. ♀ ad. Efulen, April 17, 1902. "Nkes."
b. ♀ ad. " June 23, 1902.
c. ♀ ad. " Dec. 22, 1902.
No. 88. ♀ ad. River Ja, Feb. 1903. "Nkes."

113. Bleda tricolor.

Criniger tricolor (Cass.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 97 (1895); Sharpe, Hand-l. iii. p. 317 (1901).

Bleda icterina (Bp.); Oberholser, Proc. U.S. Nat. Mus. xxii. p. 14 (1899).

a. ♂ juv. 25 miles from Batanga, Dec. 9, 1901.
b. ♀ ad. Efulen, Feb. 20, 1902. "Ôto'o-bijak."
c. ♂ ad. ,, March 25, 1902.
d. ♀ ad. ,, April 13, 1902.
e. ♂ ad. ,, May 8, 1902.
Nos. 120, 127. ♂; 126. ♀ ad. Efulen, April 9–11, 1903.
No. 146. ♂ ad. Efulen, May 4, 1903.
No. 217. ♂ ad. ,, Nov. 1, 1903.
No. 382. ♀ ad. ,, March 23, 1904. "Oto'o-bijak."
Nos. 422, 423. ♀ ad. Efulen, April 4, 1904.

The males seem to be larger and have longer bills than the females.

Although Mr. Oberholser is doubtless right in stating that the oldest name of this species is *B. icterina* Bp., it is so obviously inconvenient to have the names *icterina* and *icterica* in the same genus that I think it will be better to adhere to Cassin's name of *B. tricolor*.

114. Bleda serina.

Bleda serina (Verr.); Sharpe, t. c. p. 322 (1901).

Andropadus serinus id. Ibis, 1902, p. 93.

a, b. ♂ ♀ ad. Efulen, June 24, 1901. "Atya."
c. ♀ ad. ,, May 20, 1902.
d, e. ♂ ♀ ad. ,, June 19, 1902.
f. ♂. ,, Dec. 5, 1902. "Atya."
No. 332. ♂ ad. River Ja, Jan. 3, 1904.

115. Bleda syndactyla.

Xenocichla syndactyla (Sw.); Sjöstedt, t. c. p. 100 (1895); Reichenow, J. f. O. 1894, p. 41.

Bleda syndactyla (Swains.); Sharpe, Hand-l. iii. p. 322 (1901); id. Ibis, 1902, p. 93.

a. ♂ ad. Efulen, April 24, 1902. "Ntyoñ."
b. ♂ ad. ,, June 17, 1902.

No. 142. ♀ ad. Efulen, April 23, 1903. "Ntyoñ" or "Nti-éjak."

Nos. 27, 49. ♂ ♀. River Ja, Feb. 1903.

No. 223. ♀. Efulen, Nov. 3, 1903.

The males have a much larger bill than the females, but do not differ in colour. The Camaroon and Gaboon birds are a trifle darker than those from the Gold Coast.

116. BLEDA BATESI.

Bleda batesi Sharpe, Bull. B. O. C. xiv. p. 19 (1903).

a. ♂ ad. Efulen, March 25, 1902. "Mali."

No. 204. ♂ ad. Efulen, Oct. 17, 1903.

Nos. 273, 290. ♂ ♀ ad. River Ja, Dec. 17, 20, 1903.

This species is intermediate between *B. indicator* and *B. clamans.* Like the latter, the white outer tail-feathers have no dusky tips, and yet the lower abdomen is dusky, as in *B. indicator,* and not buff, as in *B. clamans.*

Of the three specimens received since I described this species, two have dusky tips to the outer tail-feathers, as in *B. indicator.* Whether in this species these caudal spots are signs of immaturity it is difficult to decide at present, but in twelve specimens from other parts of West Africa there is not a single one which has the outer tail-feathers unspotted.

117. BLEDA CLAMANS.

Xenocichla clamans Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 97, Taf. x. (1895).

Bleda clamans (Sjöst.); Sharpe, Hand-l. iii. p. 322 (1901).

a. ♀ ad. River Como, 60 miles from Gaboon, July 22, 1896.

b. ♀ ad. Efulen, Feb. 5, 1902.

c. ♂ ad. " May 19, 1902.

d. ♂ ad. " March 22, 1904.

This seems to be a very distinct species, principally distinguished by its lighter coloration, fawn-coloured abdomen and under parts, and unspotted white outer tail-feathers.

118. BLEDA LEUCOPLEURA.

Xenocichla leucopleura (Cass.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 100 (1895); Reichenow, J. f. O. 1896, p. 37.

Bleda leucopleura (Cass.); Sharpe, Hand-l. iii. p. 323 (1901).

a. ♀ ad. Como River, 60 miles from Gaboon, Aug. 3, 1896.

b. ♂ ad. Efulen, Nov. 13, 1902. "Ngomejal."

No. 252. ♀ ad. River Ja, Dec. 12, 1903.

119. BLEDA NOTATA.

Xenocichla notata (Cass.); Sjöstedt. t. c. p. 99 (1895); Reichenow, l. c.

Bleda notata (Cass.); Sharpe, l. c. (1901).

a. ♂ ad. Como River, 60 miles from Gaboon, July 30, 1896.

b. ♀ ad. Rio Benito, French Congo, March 10, 1899.

c. ♀ ad. Efulen, Dec. 28, 1901. "Ntyoñ."

d. ♂ ad. ,, Jan. 2, 1902.

e. ♂ ad. ,, May 14, 1902.

No. 37. ♂ ad. River Ja, Feb. 1903. "Ôlo-éjak."

No. 96. ♂ ad. Efulen, March 23, 1903.

f. ♂ ad. Efulen, April 20, 1903.

No. 222. ♂ ad. Efulen, Nov. 3, 1903.

No. 395. ♂ ad. ,, March 25, 1904.

120. EURILLAS VIRENS.

Eurillas virens (Cass.); Sharpe, t. c. p. 324 (1901).

Andropadus virens Cass.; Sjöstedt, t. c. p. 94 (1895); Reichenow, J. f. O. 1894, p. 41, 1896, p. 36.

a. ♂ ad. Efulen, Dec. 31, 1901. "Ôtok."

Nos. 393, 394. ♂ ♀ ad. Efulen, March 25, 1904.

These birds appear to me to be the true *E. virens*, but there is great variation in the colour of the under tail-coverts, and the various plumages, as in the case of the other species of the genus, require further examination.

121. EURILLAS GRACILIS.

Chlorocichla gracilis (Cab.); Sjöstedt, t. c. p. 95 (1895).

Andropadus gracilis Reichenow, J. f. O. 1896, p. 36.

Stelgidillas gracilis (Cab.); Sharpe, Hand-l. iii. p. 326 (1901).

a. ♀ juv. Efulen, June 3, 1901.
b. Ad. ,, Jan. 1, 1902. "Ôtok."
No. 67. ♂ ad. River Ja, Feb. 1903. "Tya-ôtok."
Nos. 271, 289. ♂ ♀ ad. River Ja, Dec. 17, 21, 1903.
Nos. 337, 344. River Ja, Jan. 5, 6, 1904.

The grey throat distinguishes this species, which was previously unknown to me. I seem to have placed it in the wrong genus in my 'Hand-list.'

So far as I can ascertain, the young are olive-greenish below, with brighter yellow in the centre of the abdomen, and have pale feet and base of lower mandible. It is, however, difficult to identify with certainty the immature specimens of these small Bulbuls, which are all very much alike.

122. Eurillas camerunensis.

Andropadus cameronensis Reichenow; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 95 (1895).

Eurillas cameronensis (Reichen.); Sharpe, Ibis, 1902, p. 94.

a. ♀ ad. Efulen, Feb. 8, 1902.
b. Ad. ,, March 14, 1902. "Ôtok."
No. 55. ♂. River Ja, Feb. 1903.
No. 261. ♂ ad. River Ja, Dec. 15, 1903.
No. 371. ♀ ad. Efulen, March 11, 1904.

It seems a curious thing that three species of "Ôtok" should occur in the same district, and yet such would appear to be the case. I have named the series from Dr. Reichenow's "Key" to the species of *Andropadus* (J. f. O. 1896, p. 63).

123. Eurillas efulenensis, n. sp.

Eurillas latirostris (Strickl., part.); Sharpe, Hand-l. iii. p. 325 (1901).

a. ♀ ad. Efulen, July 27, 1901. "Ôtok."
b. ♂ ad. ,, Dec. 30, 1901.
c, d. ♂ ♀ ad. Efulen, Feb. 22, 24, 1902.
No. 141. ♂ imm. Efulen, April 22, 1903.

Nos. 254, 257, 259, 262. ♂ ♀ ad. et imm. River Ja, Dec. 14, 15, 1903.

No. 392. ♂ imm. Efulen, March 25, 1904.

The Fernando Po birds are the true *E. latirostris* (Strickl.) and the Gaboon and Congo specimens appear to me to be identical; the tail is decidedly reddish brown and the moustachial streak is of a brighter yellow than in the Camaroon birds.

The latter have a somewhat darker rufous-brown tail, greener upper surface, and a pale sulphur-yellow moustachial streak. I propose to call this form *E. efulenensis*. The bird from the Gold Coast—*E. congener* (Reichen.)—has a dusky brown tail, somewhat darker than in the Camaroon form, to which it is very closely allied, shewing the same sulphur-yellow moustachial streak. All three races are very much alike in colour and measurements, the latter being as follows:—

E. latirostris (Strickl.).—Fernando Po, seven males, wing 3·2 to 3·4 inches.

Fernando Po, four females, wing 2·9 to 3·2 inches.

Gaboon, five specimens, wing 3·0 to 3·3 inches.

Landana, Congo, one specimen, wing 3·3 inches.

E. efulenensis.—Efulen, five males, wing 3·1 to 3·4 inches.

Efulen, four females, wing 3·0 to 3·15 inches.

E. congener (Reichen.).—Gold Coast, six specimens, wing 2·9 to 3·2 inches.

124. STELGIDILLAS GRACILIROSTRIS.

Chlorocichla gracilirostris (Strickl.); Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 95 (1895).

Andropadus gracilirostris Reichenow, J. f. O. 1896, p. 36.

Stelgidillas gracilirostris (Strickl.); Sharpe, Hand-l. iii. p. 326 (1901).

a. ♂ ad. Efulen, Oct. 21, 1902. "Atya-ndô."

No. 244. ♀ ad. Efulen, Nov. 19, 1903.

No. 299. ♂ ad. River Ja, Dec. 23, 1903.

No. 328. ♂ ad. „ Jan. 2, 1904.

125. IXONOTUS GUTTATUS.

Ixonotus guttatus J. & E. Verr.; Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 94 (1895); Sharpe, Hand-l. iii. p. 328 (1901).

a. ♀ ad. Como River, 60 miles from Gaboon, July 2, 1896.

b. ♂ ad. Efulen, Jan. 3, 1902. "Ntyet yal."

c, d. ♂ ad. „ Feb. 4, 1902.

e. ♀ ad. „ May 21, 1902.

No. 74. ♀ ad. River Ja, Feb. 1903.

No. 341. ♂ ad. „ Jan. 6, 1904.

Nos. 405, 409. ♂ ad. Efulen, March 29, 1904.

126. PYCNONOTUS GABONENSIS.

Pycnonotus gabonensis Sharpe; Sjöstedt, l. c. (1895); Reichenow, J. f. O. 1894, p. 40, 1896, p. 36; Sharpe, t. c. p. 331 (1901).

a. ♂ ad. Como River, 60 miles from Gaboon, June 30, 1896.

b. ♂ ad. Efulen, Jan. 7, 1902. "Nkwe'ele."

No. 60. ♀. River Ja, Feb. 1903.

No. 403. ♂ pull. Efulen, March 27, 1904.

It is interesting to note that the yellow on the under tail-coverts of the adult is also indicated in the young bird when scarcely fledged.

127. PYCNONOTUS VIRIDESCENTIOR, n. sp.

Similis *P. falkensteini*, sed saturatior, viridescentior, hypochondriis saturatius cinereis, et gutture lætiore flavo distinguendus. Long. tot. 7·0 poll., culm. 0·75, alæ 3·5, caudæ 3·0, tarsi 0·9.

a. ♀ juv. Efulen, May 22, 1902.

No. 87. ♂ ad. River Ja, Feb. 1903. "Atya-ndô." Type of the species.

No. 267. ♂ ad. River Ja, Dec. 16, 1903.

This is a dark race of *P. falkensteini*, differing from the latter in the darker and greener colour of the upper surface and darker grey of the flanks, as well as in the deeper yellow of the throat.

[To be continued.]

XLIV.—*On a new Species of Owl from New Zealand.*

By Sir Walter L. Buller, K.C.M.G., F.R.S.

As probably most of the readers of 'The Ibis' are aware, we possess in New Zealand a very remarkable form of Ground-Owl, *Sceloglaux albifacies*, which has long been extremely rare and is in fact on the verge of extinction. All the known examples of this bird have come from the South Island. I have now to record the existence of a closely allied species in the North Island, of which only one example is known, this having been killed in the Wairarapa district, near Wellington, in the summer of 1868–9. A coloured figure and a full account of this bird will appear in the "Supplement" to my 'Birds of New Zealand,' now in the press; and all I propose to do at present is to publish a brief synopsis of the distinguishing characters.

Sceloglaux rufifacies, n. sp.

Ad. ♀. Similis *S. albifaciei*, sed valde minor, et supra rufescente suffusa; facie sordide rufescenti-brunnea, minime alba; pileo nuchaque nigricanti-brunneis; remigibus rufescenti-brunneo regulariter fasciatis et terminatis; rectricibus concoloribus fulvescenti-brunneis, pallidiore brunneo obscure fasciatis: rostro flavicante; pedibus sordide flavis.

Adult female.—Similar to *Sceloglaux albifacies*, but appreciably smaller; face dull rufous brown, instead of being white; crown and nape blackish brown; entire upper surface strongly suffused with rufous; quills marked with regular transverse bars and a terminal edging of rufous brown; tail-feathers uniform yellowish brown, obscurely barred with pale brown. Bill lemon-yellow; feet dull yellow.

XLV.—*Notices of recent Ornithological Publications.*

[Continued from p. 471.]

80. *Baer on Birds from Tucuman.*

[Note sur une Collection d'Oiseaux du Tucuman (République Argentine), par M. G. A. Baer. Ornis, xii. no. 3, p. 209. Paris, 1904.]

M. Baer was in Tucuman from September 1902 to April 1903: he gives us a list of the localities which he visited, their altitudes and peculiarities. The highest of these was the Cerro Pelado (5000 metres), in the "Puna" region, where he obtained examples of the rare Coot *Fulica cornuta* (*cf.* Rothschild, Bull. B. O. C. xiv. p. 38). M. Baer collected specimens of 191 species, of which he gives us a catalogue, adding a few short notes. Four of these species have lately been described as new by M. Oustalet under the names *Buarremon baeri*, *Upucerthia baeri*, *Siptornis lilloi*, and *S. hilareti**. Eleven of the species enumerated by M. Baer are not included in Sclater and Salvin's 'Argentine Ornithology.' Among these are two Humming-birds—*Petasophora iolata* and *Oreotrochilus estellæ*, both from Lara (4000 metres).

81. *Balducci on the Sternum of* Athene chiaradiæ.

[Osservazioni sullo sterno dell' *Athene chiaradiæ* (Gigl.) del Dott. Enrico Balducci. Archivio Zoologico, Napoli, i. pp. 375–380.]

The author, who is preparing a work on the sterna of birds, has examined a skeleton of the curious Italian Owl *Athene chiaradiæ* (see 'Ibis,' 1903, p. 1), and points out the slight differences between its sternum and that of the nearly allied *A. noctua.* He is inclined to accept Prof. Giglioli's view that *A. chiaradiæ* is a kind of "new species in process of formation."

82. *Bangs on Birds from Honduras.*

[Birds and Mammals from Honduras. By Outram Bangs. Bull. Mus. Comp. Zool. xxxix. no. 6 (1903).]

The author describes a collection made by Mr. W. W. Brown, Jr., in the early winter of 1902, in the vicinity of

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* Bull. Mus. d'H. N. 1904, no. 2, p. 45.

Ceiba, on the coast of Honduras. It contains examples of about 130 species, most of which are provided with three names each in the list.

Chloronerpes simplex allophyeus[*], *Picumnus dimotus*, and *Dendrornis nana confinis* are described as new. A (quite unnecessary) new generic name "*Chrysocantor*" (vox hybrida!) is used for the "Golden Wood-Warblers" (*Dendrœca*): it seems to have been proposed by Mr. C. J. Maynard in 1901[†].

Fifty-one specimens of *Cotinga amabilis* were shot in one tree! Five adult male examples of *Carpodectes nitidus* were obtained near Ceiba, the range of this beautiful bird being thereby extended into Honduras.

83. *Barboza du Bocage on Birds from the Islands of the Gulf of Guinea.*

[Contribution à la Faune des quatre îles du Golfe de Guinée. Par J. V. Barboza du Bocage. Jorn. Sci. Math., Phys. e Nat., Lisboa, ser. 2, vii. pp. 66–96.]

A list is given of 64 species of which examples have been obtained by various collectors in the Island of St. Thomas and transmitted to the Museum of Lisbon. Exact localities, critical remarks, and occasional field-notes are added. No species are described as new.

84. *Blasius on the Birds of Pontianak.*

[Vögel von Pontianak und anderen Gegenden des indo-malayischen Gebietes gesammelt von Herrn Kapitan H. Storm für das Naturhistorische Museum zu Lübeck. Aufgezählt und beprochen von Prof. Dr. Wilhelm Blasius in Braunschweig. Mitt. d. Geogr. Ges. u. d. Naturh. Museums zu Lübeck, ii. Reihe, Heft x. pp. 90–145 (1896).]

This memoir, issued in 1896, has hitherto escaped our notice, and appears to have also remained unknown to other workers in ornithology. But the author has now kindly favoured us with a separate copy, and we have great pleasure in giving a short account of it.

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[*] Qu. "*allophyes*" (=ἀλλοφυής)?

[†] 'The Warblers of New England,' pt. iii. p. 58.

Its subject is the collections of birds brought from the East Indies by Capt. H. Storm of the S.S. 'Lübeck,' and presented by him to the Museum of the City of Lübeck. Dr. William Blasius, who, at the request of Dr. Lenz, the Director of the Lübeck Museum, undertook to work out the collection, divides it into seven sections:—(i.) Birds from Pontianak in West Borneo; (ii.) those from other *certain* localities in Borneo; (iii.) those from Celebes; (iv.) those from the Sulu Islands; (v.) those from Singapore; (vi.) those from Kiang, Malacca; and (vii.) those from uncertain localities of the Indo-Malayan district. On all these birds, mostly well-known species, Dr. Blasius gives us good critical remarks with references. From Pontianak 37 species are recorded, among which is one of special interest to us, a Stork, which is described as a new "variety" under the name *Melanopelargus episcopus stormi*. It turns out that this is the same bird as the *Dissura mortoni* lately described and figured by Mr. Ogilvie-Grant in this Journal ('Ibis,' 1903, p. 145, pl. v.), so that the species should in future be called *Dissura stormi*. Dr. Blasius informs us that both he and Dr. Finsch are quite sure of their identification, and a note on this point has already been published by Dr. Finsch in the 'Ornithologische Notizen' for June last (1904, p. 94).

85. *Bulletin of the Philippine Museum.*

[Bulletin of the Philippine Museum. Birds from Benguet, Province Luzon, and from the Islands of Lubang, Mindoro, and Cagayancillo. By Richard C. McGregor. Bull. Philipp. Mus. no. 3. Manila, 1904.

The Birds of Calayan and Fuga, Babuyan Group. By Richard C. McGregor. Bull. Philipp. Mus. no. 4. Manila, 1904.]

In the third number of the Philippine Bulletin (*cf.* 'Ibis,' 1903, p. 414) are recorded by Mr. McGregor the species of birds of which specimens have been obtained for the Philippine Museum during recent expeditions to the islands of Lubang, Verde, Cagayancillo, and Agutaya, and in the province of Benguet in Luzon. A series of "zoo-geographical notes" is given. The Lubang group lies west of Cape Santiago in Luzon, and north of the western point of Mindoro, but is nearer to Mindoro than to Luzon. A collector has been working in the province of Benguet for several months and has obtained specimens of several of the rare species discovered there by Whitehead, such as *Batrachostomus microrhynchus*, *Prioniturus montanus*, and *Chimarrhornis bicolor*.

The fourth number of the Journal is devoted to an account, by the same author, of the birds collected on the islands of Calayan and Fuga of the Babuyan group, lying north of Luzon, during an expedition made in August 1903. Examples of 166 species were obtained, and the following are described as new :—*Turtur worcesteri*, *Macropygia phæa*, *Otus cuyensis*, *O. calayensis*, *Eudynamis frater*, *Zosterops flavissima*, and *Hyloterpe fallax*. Besides these, 15 others in the list are stated to be new to the Philippine avifauna.

Good field-notes are given on many of the species. An example of the rare Eagle *Pithecophaga jefferyi*, said to have come from Albay Province, Luzon, has been acquired by the Philippine Museum.

86. *Chapman on a new Grouse.*

[A new Grouse from California. By Frank M. Chapman. Bull. A. M. N. H. xx. art. xi. (1904).]

Mr. Chapman wishes to add *Dendragapus obscurus sierræ* as a new subspecies to the American List. It is nearly allied to *D. o. typicus* and *D. o. fuliginosus*, and is their representative in California "in the forested portions of the transition and Boreal zones." The type-specimen is from El Dorado County.

87. *De Chapel on the Nesting of the Flamingo.*

[En Camargue à la Recherche de Nids de Flammants. Par F. de Chapel. Bull. Soc. Acclim. France, 1904, pp. 207–212.]

The author visited the Camargue in June 1904 and found a considerable number of Flamingos' nests, though unfortunately they had been destroyed by a storm. He hopes to succeed better another year, but for the present can only give measurements of the nests and the parent birds, from which he draws the conclusion that the latter sit with one leg on each side of the nest, as equilibrium would otherwise be impossible. This, of course, runs counter to the views of other writers, but appears to agree with the statements of the natives. Figures are given to assist the enquirer.

88. *Hartert on the Palæarctic Avifauna.*

[Die Vögel der paläarktischen Fauna. Von Dr. Ernst Hartert. Heft ii. Berlin: Friedländer. June 1904. Pp. 113–240.]

The second part of Dr. Hartert's 'Birds of the Palæarctic Fauna' is based on exactly the same plan as the first, which we have already discussed at some length (see above, p. 291). The author continues and concludes his account of the Finches, recognising 237 species and subspecies of this family, and then proceeds to the Larks. The subspecies characterised as new for the first time in Part ii. are nineteen in number, and are named: *Loxia curvirostra hispana*, *L. c. anglica*, *L. c. scotica*, *Montifringilla brandti walteri* (from N.W. China), *Gymnorhis flavicollis transfuga* (Baluchistan), *Passer domestica biblicus* (Palestine), *P. italiæ senckenbergianus* (N.E. Africa), *P. rutilans debilis* (Cashmere), *Emberiza cia par* (Transcaspia), *E. schœniclus pallidior* (Turkestan), *E. s. othmari* (Bulgaria), *E. pyrrhuloides reiseri* (Greece), *E. p. centralasiæ* (E. Turkestan), *Melanocorypha calandra psammochroa* (E. Persia), *Calandrella minor polatzeki* (Lanzarote, Canaries), *Galerida cristata caroli* (Egypt), *G. c. cinnamomina* (Syria), *G. c. tardinata* (S. Arabia), and *G. theklæ erlangeri* (N. Morocco).

Besides these, in the remarks on *Passer montana* (p. 161), *Passer montanus taivanensis* from Formosa is described as a new subspecies.

89. *Helms on Birds from Greenland.*

[Fortsatte ornithologiske Meddelelser (1903) fra Grønland. Af O. Helms. Vidensk. Meddel. fra den naturh. Foren. i Kbhvn. 1904, pp. 79–135.]

Our friends in Copenhagen keep good watch over the birds of Greenland, which, since the days of Scoresby (1823), few

English ornithologists appear to have visited. Mr. Helms now continues his series of contributions to this subject by an account of the birds of East Greenland obtained during Amdrup's expedition of 1898–99, and of the collection made by the observers of the Meteorological Institute at Angmagsalik (on the east coast at about 66° N. lat.) during several years. The result is a complete list, with remarks added, of the birds of East Greenland, altogether 51 in number, of which 16 are more or less casual visitors. To this follow some notes on recent ornithological events in West Greenland, amongst which is a record of the occurrence of the "King-bird" of North America (*Tyrannus intrepidus*) at Arsak on the west coast (61° N. lat.), in September 1900.

Mr. Helms determines the Bean-Goose of East Greenland as belonging to the form commonly called *Anser brachyrhynchus*.

90. *The International Catalogue of Scientific Literature.*

[International Catalogue of Scientific Literature. First Annual Issue. N. Zoology. Authors' Catalogue, vol. xvii. part i., and Subject Catalogue, vol. xvii. part ii. 8vo. 1528 pp. Published, for the International Council, by the Royal Society of London.—Harrison and Sons.

We have not been in the habit of noticing in these pages the yearly volume of the 'Zoological Record,' because we assume that workers in every branch of Zoology who employ their pens must be well acquainted with that useful publication, and must consult it more or less frequently. But having been favoured with a "presentation-copy" of the volume of the International Catalogue of Scientific Literature which relates to Zoology, and which occupies nearly the same ground as the 'Zoological Record,' and having been invited to express our opinion on it, we have great pleasure in acceding to this request.

It is probably known to most of our readers that one of the great difficulties met with by workers in all branches of Science in these days is to ascertain what their fellow-workers have done and are doing. This difficulty is much increased by the enormous number of scientific periodicals published all over the world. The last volume of the Zoological Record contains a list of upwards of one thousand periodicals relating to Zoology alone, and, of course, in other branches of Science there is a corresponding number of such publications. It is obvious that even a catalogue of the titles of published papers would be of very great assistance to workers in Science. The idea of forming such a Catalogue was first broached by the late Prof. Henry, of Washington, who brought it before the notice of the British Association at Glasgow in 1855. It was ultimately taken up by the Royal Society, who published the first volume of their 'Catalogue of Scientific Papers' in 1867. This was subsequently continued, until there are now twelve large quarto volumes, which give the titles, arranged according to the authors' names, of all the scientific papers published from 1800 to the end of 1883. A further Catalogue containing the names of the papers published from 1883 to 1900 inclusive is now in course of preparation by the same Society. This will make the "Catalogue of Scientific Papers" complete up to the end of the past century, after which it has been determined to continue it in an annual form, if possible.

It was apparent that this gigantic task could best be carried out by international cooperation, and that, to make the result more successful, "subject-indexes" ought to be given as well as the titles of all the new works and papers. An International Conference on this question was summoned by the Royal Society, and took place in London in July 1896, when delegates from twenty-one countries attended and unanimously agreed that an 'International Catalogue of Scientific Literature' should be undertaken, and that it should be controlled by a "Central Bureau" in London, while each other country should have a "Regional Bureau" to collect information on the spot.

At other Conferences held by the Royal Society in London in 1898 and 1900 the scheme was further elaborated, and it was finally agreed that the new International Catalogue of Scientific Literature should be published in London by the Royal Society in seventeen annual volumes, each relating to a separate branch of Science. It was also agreed that these branches should be distinguished by letters A to R, and that Dr. J. Foster Morley should be appointed Director of the undertaking.

The seventeen volumes relating to the Scientific Literature of 1901 were accordingly issued at different dates in 1903 and 1904, the volume "N" Zoology being the 17th and last of the series. This was published in February 1904, but the MS. of it is stated to have been completed in August 1903.

Let us now turn to the volume itself and examine it and its contents. Though paged throughout (from p. 1 to p. 1528) it is issued in two parts, the first of which (pp. 1–368) contains what is called the "Authors' Catalogue," that is, if we understand rightly, a complete list of the titles of all the works and papers relating to Zoology published in 1901; and the second (pp. 369–1528) what is called the "Subject Catalogue," being a rearrangement of these titles according to the different subjects to which the articles relate.

In the first place, we must object strongly to the paper covers, which are useless for protection and necessitate the immediate binding of the volume. The 'Zoological Record' is issued in a strong board-cover, which should have been the case with the 'International Catalogue.' To deliver a bulky volume of 1500 pages, in two parts, in paper covers seems to us to be a very unbusinesslike proceeding, and not likely to attract subscribers. On the other hand, the paper and print of the volume are decidedly good and deserve our best commendation. But the price of the work (which we may now mention) is decidedly exorbitant. Scientific men, especially Zoologists, are seldom possessed of large means, and "*thirty-seven shillings and sixpence*," which is boldly announced on the cover as the cost of the volume, is a prohibitive price. The 'Zoological Record,' we may remark, costs 20*s*., and will be preferred for its comparative cheapness, if not for its higher merits.

Here also we may say a word about the tardy appearance of the volume. Zoologists, like other workers in Science of the present epoch, want to be "up to date," and to keep them waiting until February 1904 for a list of the works published in 1901 is much too long a delay. The 'Zoological Record' for 1901 was issued in December 1902, and although we may allow "a little law" for the commencement of a new undertaking, fifteen months more could hardly have been required, if due diligence had been used.

The Authors' Catalogue, which, as already mentioned, forms "part i." of the seventeenth volume of the 'International Catalogue of Scientific Literature,' contains, besides a Preface and an Introduction, a list of the titles of all zoological works published in 1901 arranged alphabetically according to the names of the authors. If complete (which, however, as we shall presently prove, is by no means the case), it would be a very useful work, as it shews (or should shew) exactly what books and papers on zoological subjects have been published during the year in question. The "Authors' Catalogue" fills 260 pages, with double columns, and contains 5918 titles which are numbered consecutively. We suppose that these titles have been supplied by the "Regional Bureaus" of the different countries and have been arranged in order by the Central Bureau in London.

The second part of the 'International Catalogue,' called the "Subject Catalogue," is based entirely on the Authors' Catalogue, and in fact contains nothing more than the 5918 titles of the "Authors' Catalogue" rearranged in different ways according to their subjects. It consists of 1158 pages with double columns. The whole subject of Zoology is, as we are informed in the Explanatory Preface, divided into 29 "Branches" besides a "Comprehensive Branch," which includes works of a general character. We turn over the 1158 pages of the "Subject Catalogue" to find our favourite subject "Aves." This is rather a hard task, as no running titles are given on the tops of the pages—only mysterious numbers from 0010 to 6031. To ascertain the meaning of these curious numbers we must turn again to the Explanatory Preface, where we learn (p. 21) that the titles of literature on "Aves" are numbered from 5803 to 5831. By this clue we are enabled to discover on page 1276 the commencement of the portion of the work relating to Ornithology, which embraces altogether about 304 pages. It commences with what professes to be a *complete* list of the titles of all ornithological books and papers published in 1901. But this list, we regret to say, is by no means complete. For example, *nine* of the principal papers published in 'The Ibis' for 1901 are altogether omitted*! There can be no excuse for these omissions, as the corresponding volume of the 'Zoological Record,' which was issued in December 1902, contains them all. Moreover, we are officially informed that the MS. of the "Authors' Catalogue" was not completed until August 1903, so that a simple reference to the "Aves" of the 'Zoological Record' would have saved the compiler of the "Aves" of the International Catalogue this grievous error. There are also numerous omissions of titles of important articles published in 1901 in other well-known periodicals which we have consulted—'The Auk,' 'Ornis,' &c. Again, the issue in 1901 of many important ornithological works is altogether omitted—*e. g.*, Seebohm's 'Monograph of the Thrushes' (part xi.), 'Sharpe's Hand-list of Birds' (vol. iii.), Slater's 'Manual of the Birds of Iceland,' and Reichenow's 'Vögel Afrikas' (vol. i.). Dr. Bowdler Sharpe is credited with only two ornithological papers in 1901, the whole of those published in the 'Bulletin of the British Ornithologists' Club' being omitted. But we need not prolong the list of omissions, which, in fact, render the ornithological portion of the Zoological Volume of the International Catalogue quite unreliable as regards the literature of 1901. On the other hand, many titles of insignificant papers on the breeding of Canary-birds and similarly trivial subjects are inserted, which swell the list but are utterly useless to the scientific worker.

After the general list of publications on Birds in the "Subject Catalogue" come the special subjects and the titles of works re-arranged under each of them. As, however, the general list has been shewn to be very imperfect, this must necessarily be also the case with the various special lists. Besides this, the special headings are far too numerous, and in some cases obviously misleading. "Postembryonic Ontogeny" (!) is credited with two papers which might just as well have been ranged under "Development." We had supposed that the possibility of "Hibernation" in Birds was no longer credited, but four papers are placed under this curious heading. To "Pelagic Animals" one paper is assigned: it seems to consist merely of remarks on bird-life on the coasts of the Arctic Seas. Why Mr. Campbell's work on 'Australian Birds' Nests and Eggs' should have been selected to be placed under "Variation and Ætiology" we cannot understand. "Geographical Distribution" is, of course, a very important subject, but the mode of arrangement adopted here is very confusing. It is surely unnecessary to break up "North America" into seven different sections, and "Australia" into four. Altogether there are more than sixty different headings in this section. They should have been reduced to one-third of that number.

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* See the papers of the following authors in the volume for 1901:—Shelley (p. 167), Stone (p. 177), Sclater, W. L. (p. 183), Witherby (p. 237), Baker (p. 411), Finn (p. 423), Perkins (p. 562), Shelley (p. 586), and Sclater, P. L. (p. 595).

Finally, the alphabetical "List of new Genera and Species" would be very useful if it were correct and complete; but even the new species characterised in the 'Bulletin of the British Ornithologists' Club' in 1901 are in many cases passed over[*]. When the new genus or species is given, the only reference added is that of the number of the paper in the "Authors' Catalogue," and the enquirer has to refer back to the Authors' Catalogue for the title of the work and then to hunt up the page for himself.

It is obvious from what we have stated, and from what, as we are told, is the somewhat similar case in other parts of the zoological volume of this work, that the 'International Catalogue' so far as regards zoology is *not a success*.

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[*] E. g., *Prionops melanoptera* Sharpe, *P. intermedia* Sharpe, *Sylviella gaikwari* Sharpe, *Fringillaria saturatior* Sharpe, *Thryothorus goodfellowi* Sclater, *Gallirex johnstoni* Sharpe, &c., &c.

91. *Kollibay on the Birds of the Bocche di Cattaro.*

[Die Vogelfauna der Bocche di Cattaro. Von Paul Kollibay. J. f. O. 1904, pp. 80–121.]

The Bocche de Cattaro are in a charming country for the Ornithologist, and Herr Kollibay, who had previously experienced the attractions of Dalmatia (*cf.* Ornith. Jahrb. 1903, p. 23), resolved to visit it again. His sojourn in Castel Nuovo during May last year and the great assistance received from a bird-lover resident in the district have led him to compose a complete account of this remarkable Ornis. It contains twenty-two species of Sylvian Warblers besides other attractive forms, mostly breeding in the district. Amongst these is the Olive-tree Warbler (*Hypolais olivetorum*), concerning the nidification of which further accurate information was much wanted, as the bird had been confused by some writers (Brusina, amongst others) with the nearly allied *H. pallida.* Herr Kollibay found this Warbler abundant at certain localities in the Bocche, and obtained two clutches of three and four eggs respectively. *Sylvia nisoria* and *Sylvia orphea jerdoni* (*i. e.*, the eastern form of *S. orphea*) were likewise common in certain spots.

Herr Kollibay also goes deeply into the difficult question of the two Wheatears *Saxicola amphileuca* and *S. melanoleuca* and their eastern and western forms.

92. *Kolthoff on North Polar Birds.*

[Bidrag till kännedom om Norra Polartrakternas Däggdjur och Fåglar af Gustav Kolthoff. Kongl. Svensk. Vet.-Akad. Handl. xxxvi. no. 9 (1903).]

This article gives a carefully revised list of the mammals and birds which have, up to the present time, been met with in the Northern Polar area, together with notes on their range, and, in most cases, on the habits and nidification of the various species of birds. Herr Kolthoff unites the Greenland and Iceland Gyrfalcons with *Falco gyrfalco*, stating his reasons for so doing, and also gives full particulars to shew why *Lagopus hemileucurus* should be considered a good species. *Calidris arenaria*, though stated by Holböll to breed on Disco Island, was not met with anywhere in Western Greenland, but was common in North-Eastern Greenland, and breeds in some numbers in the swampy lowlands at Mackenzie Bay.

Lists are also given of the birds found in East Greenland north of 70° N. lat., of those which breed in Spitsbergen, of those which have been recorded from there on doubtful evidence, of those which occur in Kung Karls Land, and of those which were met with on Giles Land by the Nathorst Expedition in 1898.

93. *Lönnberg on the Bill in Birds.*

[On the Homologies of the different Pieces of the Compound Rhamphotheca of Birds. Arkiv för Zoologi k. Svensk. Vetenskap. i. pp. 479–512. Stockholm, 1904.]

For this carefully prepared paper the author has examined the bills of most of the important families of birds, and has endeavoured to ascertain the pieces into which the rhamphotheca may have been originally divided, with a view to determining how far the whole member may be homologous with that of Reptiles. In most Reptiles there are to be found a rostrale, labialia, nasalia, internasalia, a mentale, infralabialia, and submandibularia, while possibly the whole of these existed in the ancestral Reptiles. Dr. Lönnberg considers that he can trace these pieces—or the majority of them—in many families of Birds, although certain of them may have become fused together or may have degenerated, being at times reduced to a cere or shewing a mere groove at their junction: in the Passeriformes they are hardly ever separable. On the whole, he thinks that the facts uphold his contention that the bill of Birds is homologous with the snout of Reptiles, and that its condition may be of greater use in classification than has been usually supposed. The paper itself must, of course, be studied by our readers before a full idea of its contents can be obtained, and anatomists must decide for themselves how far they consider this a case of homology rather than of analogy. The facts are clearly stated after due examination, but perhaps the idea is not quite so novel as the author appears to consider it.

94. *Loudon on Two new Palæarctic Birds.*

[Ueber zwei neue palaearktische Formen. Von Harald Baron Loudon. Ornithol. Jahrb. xv. pp. 55, 56.]

Baron Loudon proposes to separate a form of Chimney-Swallow met with in Turkestan as *Hirundo rustica sawitzkii*. It is intermediate between *H. rustica* and *H. erythrogastra*. The form of *Carine noctua* of the west side of the Caspian, which has lighter plumage, is to be distinguished as *C. noctua caucasica*.

95. *Madarász on a supposed new Genus of Birds.*

[An Extraordinary Discovery in Ornithology. By Dr. Julius von Madarász. Ann. Mus. Hungar. ii. 1904, pp. 396–398.]

This paper is concerned with a new Passerine bird found at Lake Jippe, East Africa, by Mr. Coloman Katona, which Dr. Madarász names *Charadriola singularis*, n. gen. et sp. He considers that it will "entirely modify the hitherto established principal characteristics of the Order Passeriformes"; for, while resembling *Macronyx* in general appearance, it has the terminal third of the tibia unfeathered, scaled, and reticulated, the tarsus scutellated, and thereby is evidently accommodated to aquatic life. We are, however, informed on good authority that this is the bird already described by Dr. Cabanis in 1879 under the name *Tmetothylacus tenellus* (J. f. O. 1879, p. 438) and that it is *not* an aquatic species!

96. *Nelson on the Species of* Myiarchus.

[A Revision of the North-American mainland Species of *Myiarchus*. By E. W. Nelson. Proc. Biol. Soc. Washington, xvii. pp. 21–50 (1904).]

Mr. Nelson has done a good piece of work in revising the arrangement of the North-American species of the very difficult Tyrannine genus *Myiarchus* from the large material at his command. He recognises 19 species and subspecies. Three new subspecies of *M. lawrencii* are characterised as *M. l. bangsi* (from Panama), *M. l. querulus* (from the south end of the Mexican tableland), and *M. l. tres-mariæ* (from the Tres Maria Islands). The language of science being Latin, it would be better to write the final name of the last subspecies "*trium-mariarum*"!

97. *North's Notes on Australian Birds.*

[(1) Exhibition of Skins and Eggs of *Seisura nana* and *Rhipidura dryas*. By A. J. North. Proc. Linn. Soc. N.S.W. xxvii. p. 207.

(2) Note on some Northern and North-western Australian Grass-Finches. By A. J. North. *Op. cit.* p. 207.

(3) Exhibition of the Skins, Nests, and Eggs of *Acanthiza ewingi* and *Acanthornis magna* from Tasmania. By A. J. North. Abstr. Proc. Linn. Soc. N.S.W., March 30, 1904.]

Mr. North sends us copies of three small contributions which he has lately made to our knowledge of the Australian Avifauna. The nests and eggs of *Seisura nana* and *Rhipidura dryas* are from the Northern Territory of South Australia. Among a large number of live birds lately brought to Sydney from West Australia are some Finches closely allied to *Poephila acuticauda*, but distinguished by their orange bill; Mr. North proposes to call this form *P. aurantiirostris*. The Australian Museum has lately received skins, nests, and eggs of two rare Tasmanian birds, *Acanthiza ewingi* and *Acanthornis magna*.

98. *Oberholser on new Birds from Somaliland.*

[(1) Description of a new African Weaver-bird. By Harry C. Oberholser. Proc. U.S. Nat. Mus. xxvii. p. 683.

(2) Description of two new Birds from Somali-land. *Op. cit.* p. 737.]

The three "new birds," named *Philetairus cabanisi euchlorus*, *Merops superciliosus donaldsoni*, and *Polihierax semitorquatus homopterus*, are all from Dr. Donaldson Smith's collection, of which Dr. Bowdler Sharpe has already given us a full account (see P. Z. S. 1895, p. 465). With all due respect to our American fellow-workers, we think it would be better to consult the very full series of African birds in the British Museum before publishing isolated descriptions of supposed new subspecies.

99. *Palmer and Oldys on the Importation of Game-birds into the U.S.*

[Importation of Game-birds and Eggs for Propagation. By T. S. Palmer and Henry Oldys. U.S. Department of Agriculture. Farmers' Bulletin, No. 197. 8vo. Washington, 1904.]

Two of the Assistants in the ever-active Biological Section of the U.S. Department of Agriculture have prepared this memoir, which contains many useful particulars as to the importation of game-birds into the United States. The Pheasant appears to be the only bird that has done really well, great numbers of them being reared every season in the game-preserves of New Jersey, while they are also largely bred in New York, Pennsylvania, Oregon, and other States. All attempts at the introduction of European Grouse, Partridges, and Quails seem to have been unsuccessful. "Thousands of Quails," we are told, "have been liberated in the U.S. during the last thirty or forty years, but nowhere has the species gained a foothold."

100. *Pearson on the Birds of Russian Lapland.*

[Three Summers among the Birds of Russian Lapland. By Henry J. Pearson. With History of Saint Triphon's Monastery and Appendices. London: R. H. Porter, 1904. 1 vol. 68 pls., 216 pp.]

The extreme north of Europe has long been a favourite hunting-ground for the British Ornithologist. Out of the 182 species of birds which are catalogued in the Appendix to the present volume only 16 do not occur in the British List, while 22 species that have never been known to nest in Great Britain are to be found breeding in Russian Lapland. This fact it is, as Mr. Pearson well observes, that excites the great interest in these northern countries among the members of the B. O. U. and other bird-lovers.

As shown by its title, the present volume contains an account of three different expeditions to Russian Lapland, in the summers of 1899, 1901, and 1903. The narrative is in the form of a journal, but is written in full and excellent English, quite free from the blemishes that too often adhere to the journalistic style. On the first occasion the author was accompanied by his brother Mr. Charles Pearson, and unfortunately "hit upon the worst season that had been experienced in the North for more than forty years"—the country inside the Arctic Circle at the end of May being still under deep snow. The localities examined on this expedition were the Pechinga River and the islands in the gulf of the same name. On July 3rd an encampment was established on the north side of Pechinga Lake, and the surrounding district was at once closely investigated. At the close of this expedition a fortnight later, it was found that in spite of the unfortunate season the two brothers had met with 76 species of birds, and had obtained the eggs of 44 of them.

In the excursion of 1901, the author took his son Mr. Hetley Pearson as a companion, and selected the Kanin Peninsula on the eastern shore of the White Sea as a suitable spot for his main operations. After landing again in Pechinga Bay, where, on May 27th, they found Heno Island covered with snow, they proceeded to Kildin Island on the Murman coast and, after a short halt, to Sviatoi Nos, the only good harbour near to the opposite coast of Kanin, where, in view of the bad weather and the lateness of the season, it was resolved to stop a little. At Lutni up the Ukanskoe River a camp was formed, from which excursions were made until June 20th, when, the weather improving, it was found possible to land on the Kanin coast at the mouth of a river about 42 miles south of Kanin. Here was an open and deserted country, tenanted only by occasional wandering Samoyeds, but good for birds. An "enjoyable time" was passed, and many good nests were obtained. A short landing was subsequently effected on Korga Island at the N.E. corner of the peninsula of Kanin, and a very large colony of Glaucous Gulls (*Larus glaucus*) was found breeding on the sand-dunes there. The departure for England took place on July 15th.

The third expedition to Russian Lapland was in 1903, when it was resolved to see more of the interior of the country, the former expeditions having been mostly confined to the coast-line. On this occasion Mr. Pearson secured the companionship of Mr. Chaworth Musters, and left Hull on April 30th, picking up at Christiansund a third and most useful member of the party in the shape of a Gordon setter, which "set" to all nests on the ground. On reaching Kola by the mail-steamer the travellers were most kindly received by a Norwegian merchant, Mr. Skjærseth, who provided them with good rooms and arranged for their passage by boat further up country to Pulozero, where, after a variety of adventures *en route*, convenient head-quarters were obtained at the telegraph-station. Here the month of June was busily employed in ranging over the surrounding district and collecting birds and eggs. On June the 26th a new bird's note was heard, so distinct in sound that it attracted attention at once. It proved to be that of Eversman's Warbler (*Phylloscopus borealis*), of which other examples were subsequently met with. On July 6th the voyage home was commenced in the mail-steamer.

We have devoted some space to our notice of this volume because of its great interest to British Ornithologists, who will, we are sure, read it with very great pleasure. It is admirably illustrated by 68 plates taken from photographs, most of which are excellent. It describes the summer-haunts of many birds which we know in this country only in the winter season and tells us strange stories of their ways and habits.

We heartily commend Mr. Pearson's volume to our "birdy" friends.

101. *Salvadori on a new* Cryptolopha.

[Nuova specie del genere *Cryptolopha.* Per Tommaso Salvadori. Boll. Mus. Torino, xix. no. 404 (1904).]

Cryptolopha erythrææ, sp. nov., is allied to *C. umbro-virens*, and is from near Keren in the Bogos district of N.E. Africa, where the type was obtained along with other birds in February, 1903, by Sign. Camillo Dai Fiume de Badia Polesine.

102. *Scott's Experiments in rearing wild Finches.*

[An Account of some Experiments in rearing wild Finches by Foster-parent Birds. By Wm. E. D. Scott. Reprinted from 'Science,' n. s. xix. p. 551 (1904).]

A series of experiments was made at Princeton by removing the eggs of sitting Canaries and substituting for them, wholly or in part, the eggs of other American Finches, such as *Melospiza melodia* and *Spizella pusilla*. Although the Canaries were excellent foster-parents and tended the young assiduously, in no case did the latter live more than a few days after being hatched. Mr. Scott thinks that the kind of food used by the Canaries may not have agreed with the young, and also that the form of the nest may, in some cases, have prejudiced the health of the young birds.

103. *Scott on the Inheritance of Song.*

[The Inheritance of Song in Passerine Birds. By Wm. E. D. Scott. Reprinted from 'Science,' n. s. vol. xix. p. 164 (1904).]

Mr. Scott ascertained by experiment that the young of two species of Passerine birds (*Dolichonyx oryzivorus* and *Agelæus phœniceus*) reared so as never to hear the song of their own species, but allowed to hear other kinds of birds sing, never acquired the habitual song of their own species, so that competent judges, well acquainted with the song, could not recognise that of these specially reared birds. This would seem to indicate that the song of birds is not inherited, but acquired by hearing the parent birds sing.

104. *Shufeldt on the Pygopodes.*

[On the Osteology and Systematic Position of the Pygopodes. By R. W. Shufeldt. Reprinted from the 'American Naturalist,' vol. xxxviii. no. 425 (1864).]

This is another of Dr. Shufeldt's elaborate essays on the osteological structure of Birds. It relates to the "Pygopodes," which are classified as a Suborder divided into two "Superfamilies"—the Grebes (Podicipoidea) and the Loons

(Urinatoridea), each of which contains but one Family of existing birds. But the author agrees with Fürbringer in closely associating the former with the extinct Enaliornithidæ and Hesperornithidæ. The osteological characters which separate the two existing Families are very clearly shown.

We agree with Dr. Shufeldt that American Ornithologists have made a "great disturbance of nomenclature" in transferring the name *Colymbus* from the Loons to the Grebes; moreover, we consider that this change, like many others recently proposed, is quite unjustifiable.

105. *Swarth on the Birds of Arizona.*

[Pacific Coast Avifauna. No. 4. Birds of the Huacucha Mountains, Arizona. By Harry S. Swarth. Los Angeles, 1904. Published by the Cooper Ornithological Club.]

This is the fourth of a series of articles upon the birds of the Pacific coast published by the "Cooper Ornithological Club," the monthly official organ of which is 'The Condor,' now in its sixth year.

The Huacucha Mountains, to an account of the birds of which the present number of the 'Pacific Avifauna' is devoted, lie in the south-eastern corner of Arizona, stretching north-east and south-west, their southern extremity lying just over the Mexican Boundary. The range is small in extent, about forty miles only in length, but rises in one place to an altitude of 10,000 feet. It is well watered and well wooded, in the higher parts with conifers and with many other sorts of trees along the canyons, and appears to be an attractive district for "camping out," as the author of this article has ascertained by personal experience. His paper contains well-written field-notes on some 200 species, among which are such interesting birds as *Buteo abbreviatus*, *Falco mexicanus*, *Dryobates arizonæ*, *Aeronautes melanoleucus*, *Phainopepla nitens*, and *Cardellina rubrifrons*. Ten different species of Trochilidæ are recorded as occurring within the limits of the district.

XLVI.—*Letters, Extracts, and Notices.*

We have received the following letters addressed to "The Editors of 'The Ibis'":—

Sirs,—After reading your notice of the first number of Mr. Hartert's 'Palæarctic Avifauna' (above, pp. 291–293), I feel anxious to state my full accordance with your views, especially as regards "subspecies" and "trinomials." Moreover, I am sure that your views will obtain support not only among all the workers of the "old school," but also from all Ornithologists who foresee serious evil in the constantly growing multiplication of named forms. In this sense the well-known Dutch Ornithologist, Baron R. Snouckaert van Schauburg, who has an excellent knowledge of Palæarctic birds, writes to me in regard to Hartert's new work:—"One feels almost dizzy in contemplating the excessive increase of 'subspecies,' of which many are by no means sharply defined and perhaps such as had better not have been characterised at all. For even a 'subspecies' ought to be recognisable without having to look at the locality noted on the label." With this load of always increasing subspecies, even our Palæarctic birds are now likely to be overwhelmed, how much more the exotic forms, if the splitting into "subspecies" goes on at the rate now practised by the modern school. Mr. Oberholser, for example, divides *Bubo virginianus* into 17, and *Thryothorus musculus* into 15 subspecies—the number to follow seems to be incalculable. And besides the burden of the three names, we find among them such delightful compounds as "*Thouarsitreron dupetit-thouarsi dupetit-thouarsi*" and "*Pternistes leucoscepus muhamed-ben-abdullah*" of Erlanger! This is, indeed, no encouragement to students of ornithology, and still less so when they find out that the masters of the "new school" are by no means in full accordance as regards the value of their subspecies. Thus, for example, of the five "subspecies" of *Astragalinus*, lately characterised by Ridgway, three have already been rejected by Oberholser, and according to Hartert *Certhia familiaris* *harterti* of Hellmayr is really a form of *Certhia brachydactyla*! Thus we see that the old dispute as to the value of species continues strong even among the believers in subspecies! The members of the "old school" may therefore continue on the way that they think to be correct, notwithstanding the kind wishes of Herr Hellmayr (*cf.* Journ. f. Ornith. 1903, p. 404), who in rather coarse terms advises us to get rid of all the non-believers in the new code (for the benefit of science) as soon as possible!

Yours &c.,
Dr. O. Finsch.

Braunschweig,
June 1904.

Sirs,—May I venture to point out that in your review of Dr. Fulton's interesting paper "On the Habits of the Long-tailed Cuckoo in New Zealand" you are inaccurate in your statement (*supra*, p. 468) that Dr. Fulton gives "a list of sixteen species which are known, with more or less certainty, to be the foster-parents of *Urodynamis*"? It is true that the author mentions sixteen cases, more or less specific, that have come to his knowledge, but the hosts were only ten native species and a Brown Linnet. The evidence adduced in some of these cases is anything but satisfactory; and one knows how even persons who are tolerably good observers are liable to make mistakes in identifying birds on the wing. I have no doubt whatever that *Miro albifrons*, *Myiomoira macrocephala*, and *Clitonyx ochrocephala* have been sometimes pressed into the service; but I am very sceptical about several of the other species mentioned. I think it is highly unlikely, for example, that our Wood-Pigeon (which is strictly frugivorous) should ever have been the foster-parent of the Cuckoo, for it would know nothing of the necessity of feeding the young bird on caterpillars, on which it almost wholly subsists; and I think it just as unlikely that the Tui has ever filled the office, seeing what a determined and chronic hostility exists between that bird and the Cuckoo. Then, again, even a practised observer might be mistaken in thinking that he saw a Grey Creeper, instead of a Grey Warbler (very similar in appearance and manner of flight), "feeding a young Cuckoo." In the case of the Bell-bird, all that is alleged is that a Cuckoo was "seen sitting on a nest"; and in that of *Zosterops*, an egg of a dark colour "tapering to one end" was found in the nest and a Cuckoo was "seen coming out of the tree." To my mind much more conclusive evidence must be forthcoming before such isolated cases as these can be regarded as established. As regards the Grey Warbler, however, there are innumerable well-authenticated cases of that species being a foster-mother of *Urodynamis* all over the country.

Yours &c.,
WALTER L. BULLER.

3/4 Great Winchester Street,
London, E.C.,
July 21, 1904.

SIRS,—Mr. Hugh S. Gladstone's "Note on the Decrease in the Weight of Eggs as Incubation advances" ('Ibis,' 1904, p. 376) shews the average decrease in Pheasants' eggs to be a little over 14 per cent. In 1902 I made some experiments as to weight of eggs of the Song-Thrush and Blackbird, and came to the conclusion that during the period of incubation the decrease amounted to about 15 per cent. (see 'Irish Naturalist,' vol. xi. p. 237). It is gratifying to find that these results approach each other so closely.

Yours &c.,
NEVIN H. FOSTER.

Hillsborough, Co. Down,
22nd July, 1904.

SIRS,—In the July number of the 'Ibis' (above, p. 440) Mr. Hartert states that "Mr. Oates was the first to describe properly the Pipit now known under the name of [*Anthus*] *maculatus*."

I cannot agree to this. Oates's 'Birds of Burmah,' vol. i., in which the description cited by Mr. Hartert appeared, was published in 1883. Now the distinction between the two forms *Anthus trivialis* and *Anthus macu-*

latus was sufficiently indicated by Blyth in 1847 (Journ. As. Soc. Beng. vol. xvi. p. 433 and footnote), and in his 'Catalogue of the Birds in the Museum of the Asiatic Society,' published in 1849, Blyth distinguished the two Pipits under the names of *Dendronanthus trivialis* and *D. maculatus*. The distinction was preserved by Horsfield and Moore (Cat. Birds Mus. E. I. Co. vol. i. p. 354, 1854), who, however, used different specific names—*Anthus arboreus* and *A. agilis*. In Blyth's and Horsfield's Catalogues characters were not added, but both forms were clearly described in Jerdon's 'Birds of India,' vol. ii. p. 238 (1863), under the names of *Pipastes agilis* and *P. arboreus*, whilst in the appendix to vol. iii. p. 873 (1864) this note appeared: "According to Blyth, Sykes's *Anthus agilis* is true *A. arboreus*, and the common Indian race will therefore bear Hodgson's name MACULATUS," the last term being printed in small capitals to shew that this name was adopted. I think it is clear that even if Blyth's note of 1847 is not accepted as sufficient (I should have no hesitation in accepting it), the first to describe properly the Pipit now known as *Anthus maculatus* was not Mr. Oates in 1883, but Dr. Jerdon in 1863.

Apart altogether from the subject of trinomials, I think the question whether *A. trivialis* and *A. maculatus* should be regarded as "species" or "subspecies" is of some interest. *A. maculatus* is unknown west of India proper (the Hindostan of some map-makers), *A. trivialis* has only been recorded in one instance east of the Bay of Bengal, and this instance is now discredited by Mr. Oates, the original collector. In India proper both kinds occur and occasionally intermediate forms are met with. Both birds breed in the Western Himalayas. Under these circumstances I would suggest that the intermediate birds, as in some other similar cases, are simply hybrids between nearly allied forms, which are entitled to specific rather than subspecific rank.

Yours &c.,

August 1904. W. T. BLANFORD.

Sirs,—A few remarks as to the Scottish Ospreys may be of interest to the Members of the B. O. U.:—

There were none seen at Loch an Eilean in 1903, and none in 1904. Only one came to the only other nesting-site in 1904. An Osprey (called a "Buzzard") was captured—and *killed*!—in the Lakeland District of England in the spring migration of 1904*. It seems, therefore, that the Osprey as a British breeding species is approaching extinction, while it does not appear that the Zoological Society's medals have been productive of any permanent good.

Are the resources of the civilization of this generation exhausted?

Yours &c.,
J. A. Harvie-Brown.

Dunipace House, Larbert,
Sept. 1st, 1904.

Sirs,—I find some difficulty in following the reasoning of the defenders of the trinomial system in nomenclature, as given by the Hon. Walter Rothschild at the recent meeting of the B. O. C. (see Bull. B. O. C. xiv. p. 87). My views about the use of a trinomial are:—By all means let geographical variation be studied, but why designate the birds with a trinomial that does not describe the geographical value? such as "*ernesti*," "*delicatula*," "*kirchhoffi*," "*insularis*," &c. So long as the trinomial has a distinctive geographical descriptive power there can be little "mischievous interpretation" of it either in the Museum or in the Field.

As to the difference of habits in closely allied races, I cannot place so much importance upon the illustration of it in the instance of *Erithacus rubecula* (*typicus*) and *E. rubecula melophilus* as is attributed to it by Mr. Rothschild. If such a course be adopted, then we may as well distinguish between our Common House-Sparrow of the country and the Common House-Sparrow of the town, or between the human inhabitant of the country and the dweller in the slums of a great city.

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* *Vide* 'The Cairngorm Club Journal,' vol. iv. no. 23, p. 308.

In the eleven different forms of *Aluco* instanced, would it not be equally (and perhaps more) to the purpose to write them down 1 to 11, or *a*, *b*, *c*, &c., and say

a. *Aluco flammea*, type.
b. ,, ,, from Wales.
,, ,, ,, Tring.
,, ,, ,, Long Marston, &c.
c. ,, ,, ,, Ilbanno, Bari, Seni, Cagliari, or simply "Sardinia."
d. ,, ,, ,, Queensland and S. Australia.

and so on? Thus there would be no necessity to ask with regard to any of them whence came the specimens.

It seems to me that if, as our writer says (*op. cit.* p. 90), "NOMENCLATURE was invented to make the reference to species or families as easy as possible," then my proposal to use only a geographically descriptive terminal name ought to be adhered to: it would not confuse Field-Naturalists with names which do not describe such values.

Aluco flammea nigrescens, I humbly think, would be better adapted for use in the field if written *Aluco flammea*, St. Vincent, simply, with as much descriptive matter afterwards as might fill a page, *if necessary*!!

Yours &c.,
J. A. HARVIE-BROWN.

Dunipace House, Larbert,
Sept. 1st, 1904.

The Specific Names of the Song-Thrush and Redwing.—A much-esteemed correspondent sends us the following remarks on this subject:—

It may assist members of the B. O. U. and readers of 'The Ibis' to have before them a brief statement of the facts relating to the use of the names *Turdus musicus* and *Turdus iliacus* by Linnæus. Mr. Hartert, in the last number of this Journal (above, p. 431), has pointed out that, according to the brief "diagnoses" in the tenth edition of Linnæus's 'Systema Naturæ,' the name *Turdus musicus* applies to the Redwing and *Turdus iliacus* to the Song-Thrush, thus transposing the scientific names that had been in use for these two birds not only since the time of Linnæus, but long previously.

The facts, so far as they are of importance, appear to be the following:—

The 'Fauna Suecica,' 1st edition (1746), No. 189, p. 72, on which the *Turdus musicus* of the tenth edition of the Syst. Nat. was founded, includes both birds: the brief description belongs to the Redwing, the references, which are of at least as great importance, relate chiefly to the Song-Thrush, as do the vernacular names *Klera* and *Kledra*. The two birds were evidently confounded by Linnæus, as was noticed in 1817 by Nilsson (Orn. Suec. i. p. 177, note) and in Newton's 'Dictionary of Birds,' p. 778. In no other edition of the 'Fauna Suecica' does there appear to be any reference to the Song-Thrush or Redwing.

In the tenth edition of the 'Systema Naturæ' (1758) the names *Turdus musicus* and *T. iliacus* were first used by Linnæus, binomials not having been employed in the first editions of the 'Fauna Suecica.' The brief descriptive notice under *T. musicus* applies, as has been pointed out by Mr. Hartert (*l. c.*), to the Redwing, while that under *T. iliacus* agrees better with the Song-Thrush. But all the synonymy under *T. musicus* belongs to the Song-Thrush and all that under *T. iliacus* to the Redwing.

In the edition of the 'Fauna Suecica' of 1761 (p. 79) the "diagnoses" of *T. musicus* and *T. iliacus* printed in the tenth edition of the 'Systema' are transposed, the principal references remaining as before, and this arrangement is preserved in the twelfth edition of the 'Systema Naturæ' (1766).

The only possible conclusion is that the "diagnoses" of *T. musicus* and *T. iliacus* in the tenth edition of the 'Systema' were interchanged owing to some mistake (possibly occasioned by the printer), and that Linnæus corrected the mistake in his next subsequent publications. As the diagnoses were thus recognised as erroneous by

Linnæus himself, the determination of the species for which he used the names *T. musicus* and *T. iliacus* depends upon his references to other authors, and these all serve to identify *T. musicus* with the Song-Thrush. The reference under *T. musicus* to No. 189 in the 'Fauna Suecica' of 1746 is inconclusive, because under that number the Song-Thrush and the Redwing were both comprised.

Report on the British Museum for 1903–4.—The report on the progress of the British Museum for the year 1903–4 contains the following passages relating to the Collection of Birds :—

The arrangement and exhibition of the Birds in the Gallery has been retarded for want of funds. The remounting of the Hornbills, Swifts, and Cuckoos has almost completed the arrangement of the Picarian Birds. Many specimens of the British series have been replaced by better-mounted examples.

An illustrated Guide to the Gallery has been completed and is now in the Press, and will shortly be issued to the public.

Screens have been erected which partially shut off the bays from the centre of the Gallery, thus gaining wall-space for exhibition purposes. Progress has been made with the osteological collection, and a number of eggs have also been registered and incorporated.

The skeletons of the Ratitæ, Sphenisci, Tubinares, Anseres, and Coraciiformes have been labelled, catalogued, and placed in cabinets. A series of preparations illustrating the anatomy of the Ratitæ has been made and exhibited in the Gallery.

Considerable additions have been made to the collection of birds in spirit.

The fourth volume of the 'Catalogue of Eggs' and the fifth volume of the 'Hand-list of Birds' are now in the press and will shortly be issued.

The accessions to the Collection of Birds reached a total of 9576, of which the following deserve special notice:—75 birds, 16 eggs, and 3 nests from the Soudan, presented by Surgeon-Major H. N. Dunn; 22 birds, including examples of 15 species new to the collection, from Fernando Po, collected and presented by Boyd Alexander, Esq.; 302 birds from the Cameroons, W. Africa, including the types of 2 new species, collected by Mr. G. L. Bates, purchased; 130 eggs from North Cachar, collected by Mr. E. C. Stuart-Baker, purchased; 284 birds, including the types of 6 new species, from Nyasa-land, presented by Sir Alfred Sharpe, K.C.B.; 378 birds from the Southern Shan States containing 3 types of species recently described as new to science, collected by Messrs. H. M. Thompson and W. H. Craddock, purchased; 40 eggs, 5 nests, and 61 birds from Southern Persia, including the type of a new species of *Sitta*, presented by H. F. Witherby, Esq.; 96 birds from New Zealand and the adjacent islands, presented by the Earl of Ranfurly; 989 birds from the province of Fohkien, China, presented by C. B. Rickett, Esq.; 451 birds from Namaqua-land, collected by Mr. H. C. B. Grant, presented by C. D. Rudd, Esq.; 351 eggs from North Queensland, presented by W. Radcliffe Saunders, Esq.; 257 birds and 3 nests from British East Africa, presented by A. B. Percival, Esq.; 131 birds from Cyprus, purchased; 31 birds from the Soudan, presented by R. M. Hawker, Esq.; 582 birds from Yunnan, including the types of 7 new species, presented by Colonel G. Rippon; 72 birds from Sierra Leone, presented by Robin Kemp, Esq.; 46 eggs and 2 nests from the Azores, collected by W. R. Ogilvie-Grant, Esq., presented by the Hon. W. Rothschild, D.Sc., M.P.; 853 birds, 19 skeletons, 91 eggs, and 12 nests from Deelfontein, Cape Colony, collected by Messrs. E. H. Seimund and C. H. B. Grant, presented by Colonel A. P. Sloggett, C.M.G.; 244 birds from Arabia, collected by Mr. G. W. Bury, purchased; 466 birds from Abyssinia, including the type of a new species, collected by Mr. E. Degen; 80 birds from Southern New Guinea, presented by Capt. F. R. Barton; 420 birds from Patagonia, collected by J. Koslowsky, purchased; 114 birds from Burmah, presented by Capt. Mearns; 443 birds and 192

skeletons from Matto Grosso, presented by Mrs. Percy Sladen; 114 birds from Buenos Aires, presented by Ernest Gibson, Esq.; 275 birds from Eastern Brazil, collected by M. Robert, purchased; 249 birds from Paraguay, collected by Mr. W. Foster, purchased; 2 birds from Australia, both new to the collection, presented by Dr. P. L. Sclater, F.R.S.; 25 birds from the Persian Gulf, presented by W. D. Cumming, Esq.; and 223 birds from various islands in the South Atlantic and Pacific Oceans (Voyage of R.Y.S. 'Valhalla'), presented by the Earl of Crawford, K.T., F.R.S.

A new Station for the Study of Bird-Life.—We are informed that articles of Incorporation have been drawn up for the establishment on a permanent foundation of the "Worthington Society for the Investigation of Bird-Life." The founder, Mr. Charles C. Worthington, will erect and endow, on his estate at Shawnee, Monroe County, Pennsylvania, the necessary buildings and equipment.

The Worthington Society will have for its purpose the consideration of bird-life as it is found in nature, and will also have many birds in confinement for study and experiment.

A temporary laboratory and aviary are being equipped, and preliminary work will begin with the instalment of a large number of native and foreign birds early in September. Mr. Worthington has procured the services of Mr. William E. D. Scott, Curator of the Department of Ornithology at Princeton University, as Director of the proposed Institution. Mr. Bruce Horsfall has been engaged as chief assistant and artist. The corps of assistants and workers will be increased as the plans of the Worthington Society become developed.

The Killdeer Plover in Great Britain.—In 'Knowledge and Scientific News' for August last (vol. i. p. 187) Mr. W. P. Pycraft writes that he has found in the University Museum of Aberdeen an example of the Killdeer Plover (*Ægialitis vocifera*) which had been erroneously labelled as the Ringed Plover (*Æ. hiaticola*). It was shot at Peterhead in 1867 by Mr. Andrew Murray. The first occurrence of this American species in Great Britain (near Christchurch in Hampshire) was recorded in this Journal in 1862 (p. 275). Another specimen was obtained in 1885 at Tresco, Scilly Islands (see Zool. 1885, p. 113); the example from Peterhead is therefore the third known to have been obtained in this country.

News from the Canaries.—Herr Rudolf v. Tanner, who is resident at Vitaflor in Tenerife, writes that he has lately made an excursion to Fuerteventura and obtained a good series of *Pratincola dacotiæ* (see Meade-Waldo, 'Ibis,' 1889, p. 505, pl. xi.), which he has sent to the Tring Museum. In the series, he says, this bird's throat varies from white to darkish black. On the coast of Tenerife, Herr v. Tanner has recently procured specimens of the Courser (*Cursorius gallicus*), which, however, had already been recorded by Mr. Meade-Waldo ('Ibis,' 1893, p. 205) as occasionally met with in Gran Canaria and as abundant in Fuerteventura, and has ascertained that *Erythrospiza githaginea* breeds in Tenerife. An interesting account of his observations in the pine-woods of Tenerife has been lately published in the 'Ornithologisches Jahrbuch' (xiv. p. 211, 1903).

The Birds of the Scotch Antarctic Expedition.—We have much pleasure in being able to state that the collection of birds (consisting of from 500 to 600 skins and about 1000 eggs, besides specimens in spirit and numerous skeletons) made by the Scotch Antarctic Expedition, of the value of which we spoke in our last issue (above, p. 482), has arrived in Edinburgh, and will be worked out by Mr. W. Eagle Clarke. Mr. Alastair Ross, who accompanied the expedition, will be associated with Mr. Clarke, and will supply full notes on the nesting and other habits of the species, which will contain particulars of great interest.

Mr. Eagle Clarke's new Observing-Station.—We are informed that, by permission of the Commissioners of Northern Lights, our fellow-member, Mr. Eagle Clarke, has been spending his holiday in the lighthouse on the Flannan Islands (West of The Lewis) for the purpose of the further study of migration. Since the lighthouse was erected on this outlying group a few years ago it has been ascertained that the islands lie in the course of a considerable stream of migratory birds *en route* between their northern spring- and southern winter-quarters, a fact which is of special interest owing to the far westerly situation of the isles, and one which renders it very desirable that the phenomena observed there should be thoroughly examined by an expert. Mr. Clarke has also investigated the limited terrestrial fauna and flora of the islands, which, owing to their remote situation and the difficulty of landing on them, have not hitherto received sufficient attention. The results of the expedition will, we trust, furnish materials for an article in 'The Ibis' next year.

The Birds of the National Antarctic Expedition.—The 'Discovery,' after its three years' absence in the Antarctic Seas, reached the East India Docks on September 17th, and the collections of Natural History have been transferred to the Museum at South Kensington, where they will be examined and described by the members of the Scientific Staff of the Expedition, with the assistance of the Naturalists of the British Museum. The collection of Birds contains about 120 skins and a good series of eggs, besides skeletons and specimens in spirit. Dr. E. A. Wilson, under whose charge the collection has been formed, will, no doubt, undertake its description. One of the most remarkable discoveries made concerns the Emperor Penguin (*Aptenodytes forsteri*). This peculiar bird selects the dark night of the Antarctic midwinter as its breeding-season, and lays its single egg as it sits on an ice-floe, keeping it warm between its feet and the lower part of its abdomen.

The Superb Warbler of South-eastern Australia.—In the 'Proceedings of the Linnean Society of New South Wales' for 1901 (vol. xxvi. p. 632) I pointed out that the bird named *Motacilla cyanea* by Ellis was met with in January 1777 at Adventure Bay, Bruni Island, near the south-eastern coast of Tasmania, and that consequently the name of *Malurus cyaneus* Ellis would have to stand for the Tasmanian species and that of *Malurus superbus* Shaw for the well-known species inhabiting South-eastern Australia.

In the 'Catalogue of Birds in the British Museum' (vol. iv. p. 286, 1879), Dr. Sharpe gives priority to Dr. Shaw's description and figure of *Motacilla superba* in White's 'Journal of a Voyage to New South Wales' over a similar description of Shaw's in his 'Naturalist's Miscellany,' an undated publication. In the latter work Dr. Shaw remarks as follows on the page succeeding his description of *Motacilla superba* and opposite the plate:—"The beautiful species of *Motacilla* here figured is a native of that part of New Holland called Van Dieman's Land, and is one of the new species of birds which have been discovered during the voyages to those parts."

Recently my attention has been drawn to an article in the 'Annals and Magazine of Natural History,' 6th series, vol. xv. p. 376 (1895), by Mr. C. D. Sherborn, giving the exact dates of publication of Shaw and Nodder's 'Naturalist's Miscellany,' of which plates 1 to 15 were published in 1789. *Motacilla superba* was described and figured on plate 10. The name having been based on the Tasmanian species in 1789 is untenable for the birds described by the same author in White's 'Voyage to New South Wales' in 1790. Dr. Sharpe, in the 'Proceedings of the Zoological Society' (1881, p. 788), has separated the Queensland birds under the name of *Malurus cyanochlamys*. As, therefore, *Malurus superbus* is a mere synonym of the Tasmanian species, *Malurus cyaneus* Ellis, I wish to propose the name *Malurus australis* for the Superb Warbler or "Blue Wren" so common in New South Wales, Victoria, and South Australia.—ALFRED J. NORTH, Aug. 4th, 1904.

Captain Alexander's Expedition.—The scientific exploring expedition under Capt. Boyd Alexander, which left England for Upper Nigeria in February last, arrived at Ibi, 250 miles up the Benué, in April and landed there with the view of pushing north into the interior.

A case of specimens collected by the expedition and forwarded from Ibi has lately reached the Natural History Museum, but there are no bird-skins in it.

Birds of the Anglo-German Frontier of Uganda.—We have already announced (see above, p. 312) the death by drowning, on the River Kagera, of Mr. W. G. Doggett, Naturalist to the Anglo-German Boundary Commission under Lt.-Col. Delmé-Radcliffe. The collections made by Doggett have now been received at the British Museum; they contain a series of about 450 bird-skins, all admirably prepared and in excellent condition, which, when worked out, will give much information on the Avifauna of a very little-known district of East Africa.

Mr. W. L. Sclater.—The Director of the South African Museum, having finished the MS. of the fourth and concluding volume of the "Birds" for the 'Fauna of South Africa,' has left Cape Town on a short visit to the Victoria Falls on the Zambesi, by the newly-opened railway from Buluwayo. He has taken a collector with him, who will be stationed at some convenient spot in Rhodesia, where our knowledge of the native birds is still, in Mr. Sclater's opinion, quite imperfect. Capt. Alexander's excellent memoir ('Ibis,' 1899–1900) has given us a good idea of the Avifauna of the lower part of Zambesia, but in the higher districts of this enormous tract very little has as yet been done, and many new discoveries will, no doubt, be made.

The Sarawak Museum.—The report of the Sarawak Museum for 1903, drawn up by Mr. R. Shelford, M.A., M.B.O.U., gives a good account of the condition of that flourishing establishment. The zoological collections have received many accessions during the past year, amongst which are enumerated examples of nine additional species of birds. The type and only certainly identified specimen of *Spilornis raja* has been transferred to the National Collection at South Kensington. It has been discovered that an example of a Stork received from the Baram district in 1892 and hitherto referred to *Dissura episcopus* really belongs to the nearly allied species recently described and figured in this Journal as *Dissura mortoni* ('Ibis,' 1903, p. 145, pl. v.), but more correctly named *Dissura stormi* (see above, p. 642).

We are informed that Mr. Shelford is about to resign the Curatorship of the Sarawak Museum and will return to England in June next. We believe that we may state that the vacant post, which is in the gift of H.E. The Rajah of Sarawak, is likely to be offered to another active and well-known member of our Union.

We may take this opportunity of mentioning that the Rajah of Sarawak, who has an English residence at Cirencester, has lately built in that town a new Museum for the exhibition of the products of Borneo of all kinds, which will shortly be open to the public. A series of the native birds of Borneo will form a portion of its contents.

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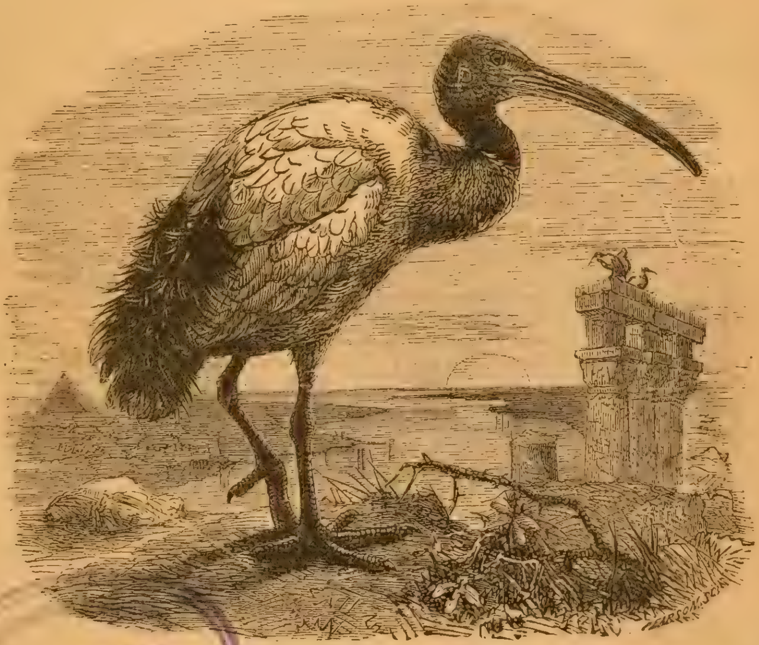

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2. Anderson and Grinnell. Birds of the Siskiyou Mountains, California. (Proc. Acad. Nat. Sci. Philad. 1903.)
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7. Bianchi. Fundorte der Vögel, die durch die Herren N. A. Dmitriew und A. W. Kachowski in den Jahren 1898–99 in Nordost-Afrika gesammelt wurden. (Ann. Mus. Zool. Acad. Imp. Sci., St. Pétersb. vi.)
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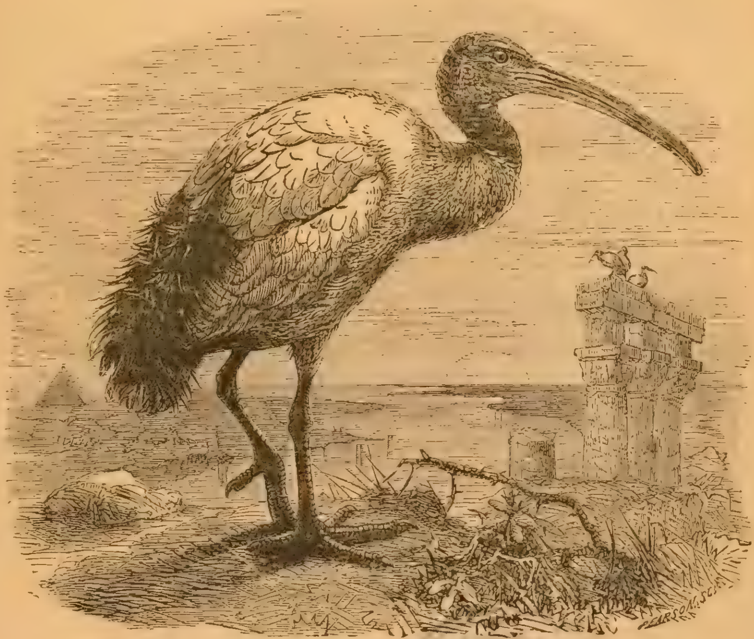

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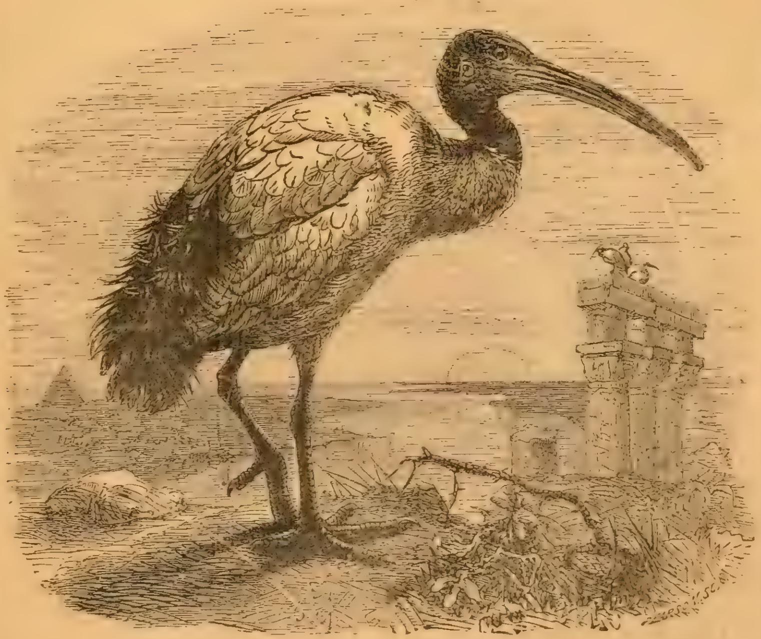

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